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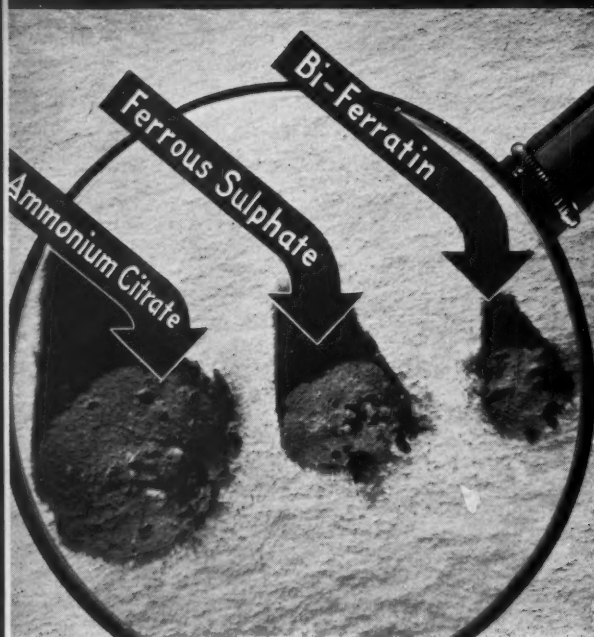
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## Editorials

### Addison's Disease

SOME of the early symptoms of Addison's disease are nausea, vomiting, hypoglycemia and hypotension. In an important contribution, Kenneth W. Taber (*Western J. of Surg., Obs. and Gyn.*, Sept., 1937) points out that hypotension may be absent until the terminal crisis. This crisis may simulate acute abdominal disease. Taber warns that we should not wait for the final asthenia, loss of weight, pigmentation of the skin and collapse before instituting treatment. He believes that there is evidence to indicate that there is a deficiency not only of the entire adrenal gland but also of the pituitary and that there is no reason for the excessive use of sodium chloride in these cases, since this can be obviated by the use of anterior lobe pituitary extract. This should be combined with a low potassium diet and a normal salt intake, followed by efforts to transplant adrenal cortex surgically into the patient. If the thymus is demonstrable, Taber believes that it should be treated with x-rays.

—M.W.T.

### How Old Is Syphilis?

D. R. Franklin H. Church, in his review in this issue of the Charak Memorial Prize thesis on the antiquity of syphilis in India, modestly refrains from stating the fact that it was he who stimulated the institution of the prize.

This prize essay of Reddy's is highly suggestive but not conclusive. On this point the winner of the prize himself has this to say:

Any impartial and critical student who peruses the collection of passages from Charaka and Sushruta, bearing in mind their great antiquity and the difficulties in the way of his realizing their viewpoint, will hesitate to assert that syphilis did not exist in antiquity. On the other hand, he is a bold man, indeed, who can, on the basis of these fragments and echoes, definitely diagnose syphilis in ancient India.

One school of opinion is that there was no syphilis in Europe before the return of Columbus from the New World

in 1493, or in India before 1498, the year of the arrival of Vasco da Gama's first Portuguese expedition (for example, Pusey, Bloch, Jeanselme, Dohi, Hausstein). But there is another school (with such representatives as Sudhoff, Captain Richmond C. Holcomb and Rear Admiral Charles S. Butler of the United States Navy, and Franklin H. Church) which ably expounds the pre-Columbian doctrine and adheres to an appealing evolutionary perspective in the matter.

Holcomb cites a passage from Guy de Chauliac (A.D. 1363) which suggests congenital syphilis much more than it does leprosy, which seldom occurs in infancy. At a time when leprosy, tuberculosis, treponematous and blastomycotic infections, and leucemic infiltrates with ulceration could not have been accurately differentiated (if they all existed), one should be wary of negative dogmatism. Even today there are chronic cases not easy to distinguish by histological scrutiny, and positive Wassermanns are frequent in leprosy.

The challenge to produce pre-Columbian bones showing evidence of treponematous infection has, it seems to us, been overstressed. Virchow, Williams and Elliot Smith are always quoted on this point. The "worm-eaten" skull is their criterion. But this studies ancient syphilis upon exactly the same terms as post-Columbian syphilis, with all its virulence. The ancient ailments were presumably of the syphiloid order, as Holcomb puts it, caused by an ancestor of the *Treponema pallidum*, and were comparatively mild infections (like modern yaws and bejel), not invading seriously the vascular, nervous or osseous systems, not usually venereal in origin (vide Ellis H. Hudson, *Transactions of the Royal Society of Tropical Medicine* 31:9-33, June 25, 1937), expending their chief effects upon mucocutaneous areas, and bearing an evolutionary relationship to the syphilis which was modified toward malignancy and epidemicity by reason, perhaps, of the implantation by

the sailors of Columbus of a European spirochete into the sensitive (Haitian) soil. The Columbian doctrine, indeed, can be accepted rationally, involving as it does the "usual result" of the contact of civilized and primitive races, without excluding pre-Columbian spirochetoses in Europe and Asia of both sporadic and endemic character.

We have today as presumptive exemplars of ancient syphilis the yaws of tropical countries and the bejel of the Euphrates Arabs—nonvenereal treponematoses. Thus there would seem to be strains of the treponema just as there are strains of the streptococcus.

We must perhaps learn to think of syphilis as we think of cancer—the former as a group of closely affiliated spirochetel infections with varying manifestations in different areas and social groups and in different historic periods; the latter as a group of closely related diseases generically linked under a convenient genus-like appellation.

Syphilis has probably plagued mankind in one form or another and under numerous names since the beginning of history. There is no good reason why we should resolutely close our minds to any investigation of the subject prior to 1493.

Did Fracastorius merely give to an old disease a new name?

Must we remain bound to traditionalism in this matter?

Would one presenting convincing evidence escape the pillory? Remember that Jeanselme insists that all documents concerning syphilis dated prior to 1493 are apocryphal, "either because they are antedated by fraud or error, or because interpolated passages have been introduced."

We should like to suggest to the controversialists a new approach to the problem. William C. Boyd and Lyle G. Boyd of the Evans Memorial, Massachusetts Memorial Hospitals, and Boston University School of Medicine have succeeded in determining the blood groups of three hundred mummies (*Journal of Immunology* 32:307-319, April, 1937). This suggests to the writer that it might be worth while to make extracts and test for specific fixation. Perhaps special sera could be prepared that would fix well with such tissues. This would all depend

upon the persistence of the blood proteins and, in the case of syphilitic mummies, upon the presence of the altered globulin which makes a diagnostic test possible.

Before the Boyds made their demonstration who would have thought it possible to determine the blood groups of mummies 5,000 years old? So let us not be too pessimistic about a search for syphilis among the preserved citizens of ancient Egypt, along lines other than the x-ray scrutiny of bones, which has not led us anywhere for reasons which we have ventured to intimate.

### *The Neuropathic Springs Of National Life*

MENNINGER, in his *The Human Mind*, cites Woodrow Wilson as possessing a schizoid personality. Such personalities certainly have to be taken into account, since their behavior influences mightily, for good or evil, the currents of national thought and life.

The recent suicide of a great psychiatrist raises a question as to his judgments, widely accepted, upon certain social questions that to many seemed badly reasoned at the time of their promulgation, only shortly before the tragic denouement.

The course of history presents instances from time to time of our theme. Upon Alexander was impressed by his mother the direct part played by Jupiter in his genesis, and in this fact is to be found one of the sources of his far-flung imperialism. Modern instances in kind, if not in degree, will doubtless occur to the reader.

The paranoid factor so obvious in at least one type of European dictator today brings the record right down to date.

There is neuropathy behind very much of the world's confusion and violence in "the contemporary barbarism known popularly as modern civilization," to use the language of Ernest Sutherland Bates.

### *Guns Versus Butter*

ACCORDING to John Langdon-Davies of the *London Daily News* and *News Chronicle*, there has been, in Germany, an increased mortality rate of ten per cent for the period covered by the Hitler regime. He ascribes it to the privations



of the civilian population in the interest of the state and of militarism.

Doubtless Germany regards such an increase as an index of efficiency in ridding itself of the unfit. The surviving fit presumably meet Germany's standards.

We seem to have here an outstanding example of the buncombe that characterizes and is inherent in applied eugenics and euthenics.

### Medicine and Progress

THE social sciences lag, as compared with the physical and biological sciences, resulting in a lopsided and wobbly educational system. This premise is offered by Mr. Harold O. Voorhis of New York University as perhaps accounting for the mess that the modern world finds itself in. "If politics and morals," says Mr. Voorhis, "had progressed as much in the last two decades as medical science there would be far less consumption of gunpowder today."

Thus in so far as education can be indicted for the world's plight it would seem that this outstripping of some branches by others is a particularly unwholesome phenomenon. We are in the habit of being proud when our own group is ahead of its time, as now seems to be the case with medicine. We can not slacken our pace, but nevertheless it is too bad that progress is not going forward along uniform and coordinated lines. The other branches will have to catch up, despite the hot pace that medicine sets for them, if the world is ever to become a thoroughly decent place in which to live.

Morally, in not distinguishing one sick or injured individual from another in either the military or civil spheres, medicine attains a plane that seems incongruous with the standards and practices that characterize nearly every other human agency. It is a little odd that such a concept and such conduct are tolerated by the vicious forces now so rampant in society. When we see them no longer tolerated we may be sure that we have relapsed into barbarism and a new Dark Age. The status of medicine is the measure either of the glory or the degradation of men at any given time.

### Mosquito Control

ALL factions are agreed that there must be mosquito control, but it seems that there can be too much control or a wrong kind of control. The digging of ditches for drainage and the spreading of heavy oil to kill larvae can be so overdone that vegetation and wild life are damaged. The Biological Survey is trying to keep drainage projects within reasonable bounds, so as not to "ruin everything we have." Thus it limits drainage projects to within a radius of five miles of a town. This is considered sufficient protection, because mosquitoes do not fly far from their breeding grounds.

Drainage ditches must be properly maintained and kept clear, else they provide excellent breeding places for mosquitoes. State legislatures frequently fail to provide adequate maintenance funds. The Audubon Society holds that intelligently conceived, expertly prosecuted, adequately maintained and completely justified mosquito control is "as rare as the Eskimo curlew."

The citizens of our Long Island counties have come to look upon the work of their Extermination Commissions as a necessary function of governmental activity and are prepared to bear the cost of proper maintenance, which runs into hundreds of thousands of dollars. This has resulted from thorough education as to the effects upon health and property values. In these counties the work is characterized by efficiency and due regard for the conservation and protection of birds, fish and wild life.

### Medicine a Scapegoat For the Ills of Society

ORGANIZED medicine is chided by the *New York Times* for not solving the problem of medical care for all the people. Yet it is economic misfortune that handicaps the major part of the population, not only when ill, but at all times. Can medicine remedy that?

We are accused of following a *laissez-faire* policy, of falling back upon the claim that medical care is better in this country than in Europe, and of not admitting the existence of a problem.

—Concluded on page 189

## THE CLINICAL SIGNIFICANCE OF THE

# *Venous Pressure*

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**VENESECTION** or "blood letting" was a common practice in the treatment of all forms of disease by many physicians who have handed down some of the classical descriptions of disease and whose clinical acumen is unquestioned. Obviously, when the practice was indulged in by these men as a standard form of treatment, great benefit must have been derived from it in many instances. It is doubtful if the mechanism by which the benefits accrued was understood at this time so the lack of selection of cases suitable for the procedure must have accounted for many of the failures. Because of misuse venesection gradually fell into disrepute as a form of therapy and became almost a forgotten art. In recent years the intensive studies of the circulation which have been made have again drawn attention to the important part played in the circulation by the venous pressure. This work has indicated some of the fundamental causes of disturbance of the circulation and the evil consequences of the altered mechanism. It has enabled a differentiation to be made as to the various types of failure of the circulation and has demonstrated those in which a rise of venous pressure is significant. On the basis of these studies a reduction of venous pressure, which is what venesection accomplishes, is now being restored to its proper place as a therapeutic procedure.

### *Methods of Estimating Venous Pressure in Man*

**I**N order to appreciate alterations in venous pressure various procedures have been devised for its estimation. The following are the most commonly used.

From the Department of Medicine and the Department of Physiology and Pharmacology of the Long Island College of Medicine, Brooklyn, New York.

#### *Gaertner's Method (1)*

**T**HE hand is allowed to hang down and slowly raised without any active movement on the part of the patient. Collapse of the veins occurs when the negative hydrostatic pressure equals the positive venous pressure. The difference between the height of the limb and the lower border of the manubrium sterni, i.e., the right auricle, gives the venous pressure.

#### *Moritz & Von Tabora (2)*

**W**ITH the patient in the recumbent position and the arm at the level of the right auricle a large bored needle is inserted into the median basilic vein. The needle is attached to a water manometer filled with citrate solution. The solution is allowed to run until a constant level is obtained. The level at which equilibrium takes place is the venous pressure.

The objection to this method is that frequent readings may be difficult to obtain individuals with small veins.

#### *Indirect Method of Eyster & Hooker (3)*

**A** GLASS capsule connected with a bulb and manometer is sealed with collodion over a superficial vein. The pressure necessary to cause collapse of the vein indicates the venous pressure. The main difficulty with this method is that it is hard to have conditions exactly the same for making repeated observations on different occasions.

### *Method of Lewis (4)*

WHEN the patient is recumbent the external jugular vein should not be visible beyond the lateral border of the sternomastoid muscle while with the patient in the vertical position it should be invisible. The zero level of venous pressure is the lower level of the manubrium sterni and the height above this to which the vein is visible indicates the venous pressure. The height to which the veins are filled above the normal level gives an indication of the increase in venous pressure. If the veins be full to the lobe of the ear in the vertical position this indicates a greater degree of pressure than if they extend this distance when recumbent, as in the former all veins above the level of the manubrium are normally collapsed.

### *The Physiology of the Venous Pressure*

**Normal Venous Pressure.** The normal venous pressure consists of the sum of the residual pressure after the blood has passed through the capillaries and the hydrostatic pressure due to the effect of gravity on the column of blood. The pressure varies from its highest point at the periphery to its lowest in the thorax. The return of blood from the periphery is facilitated by muscular contractions and the presence of the valves in the veins. The effective venous pressure is the difference between the intrathoracic pressure and the pressure in the right auricle at the moment the tricuspid valve opens. It constitutes the load on the heart. The "law of the heart" as enunciated by Starling is important to the understanding of the mechanism by which this load is dealt with. This law is as follows—The mechanical energy set free in passing from a resting to a contracted state depends on the area of chemically active surfaces, i.e., on the length of the muscle fibres. It was shown that with a constant venous pressure increased peripheral resistance is compensated for in a few cycles. During the first few cycles there is a diminished cardiac output but owing to the residual blood in the ventricle the stroke volume soon returns to normal. The greater diastolic length of the muscle fibres enables the heart to set free more energy.

When the arterial resistance is constant a rise in venous pressure similarly causes an increased systolic discharge. With a low initial venous pressure a small increase causes a great rise in output but with a higher initial venous pressure a greater increase is necessary to cause a corresponding augmentation of output. Finally a stage is reached where the venous return to the heart is so great that the cardiac musculature becomes overstretched and output falls.

In the normal heart an increased return of blood to the heart can be adequately taken care of due to an increase in heart rate from the Bainbridge reflex (this reflex increases the heart rate by reflexly altering the tone of the nerves which control the heart rate) and to the augmented systolic discharge from the increase in the diastolic length of the fibres. In the decompensated heart, however, matters are different. The damaged heart may be able to handle the normal return of blood without any difficulty but when the load is increased the impaired muscle may be unable to increase the stroke volume sufficiently and failure supervenes. As the damage becomes greater so the ability to respond diminishes until the heart eventually may become unable to cope with even the normal venous return.

Although the initial height of the venous pressure gives an indication of the degree of decompensation it is the trend of the pressure which indicates whether the response to treatment is satisfactory. A high pressure which falls as a result of treatment indicates a better prognosis than a lower which remains constant or tends to rise.

The venous pressure in man should be estimated after 15 minutes rest with the patient in the recumbent position and the limb at the level of the right auricle. The normal pressure averages 40-60 mm. of water. The highest level in a large series of patients was 110 mm. of water. The critical level for congestive heart failure is 200 mm. of water.

### *Effect of Posture*

THE venous pressure is higher in the erect posture than when the individual is recumbent. Although the venous pressure when recumbent appears to be un-

influenced by age there is a tendency for it to increase in the erect position as age advances.

### *Muscular Activity*

HIS causes as a rule relatively little change during mild exercise but in strenuous exercise there is a definite rise. Dilatation of the arterioles and the opening up of more capillaries increase the return of blood to the heart and tend to raise the venous pressure. This leads to an increase in heart rate and stroke volume which act to limit the increase of venous pressure. The more strenuous the exercise the more the increased venous flow predominates with a consequent rise in venous pressure.

### *Effect of Respiration*

THE negative pressure in the thorax facilitates the flow of blood in the venae cavae and causes a higher pressure in the right auricle than exists in the veins outside the thorax. As the pressure in the thorax is lowest during inspiration the aspiration effect is greatest during this period. The difference, although only slight in normal respiration, is well seen during overventilation.

### *Clinical Signs of Increased Venous Pressure*

ALTHOUGH in a large percentage of cases there is a rise in venous pressure in both the pulmonary and peripheral circulation these are often seen separately and for the sake of clarity may be so dealt with. Evidence of increased venous pressure is more frequently seen alone in the pulmonary circulation for the obvious reason that lesions primarily affecting the left side of the heart are more common. Congestive signs in the periphery without pulmonary involvement are only seen in lesions of the right side of the heart, e.g., tricuspid stenosis, in respiratory conditions inducing cor pulmonale and in constrictive pericarditis.

### *Increase of Pulmonary Venous Pressure*

Dyspnea is the outstanding symptom of a rise in venous pressure in the pulmonary system. For a long time it was believed that dyspnea was due to chemi-

cal changes in the blood as a result of anoxemia or to changes in the respiratory centre itself as a result of a reduced cerebral blood flow. In the very advanced stages of heart failure these unquestionably play some part but the work of Harrison and his associates (5) has shown that in the earlier stages this is not the main factor. The reason is that the cardiac cannot take enough exercise to induce significant chemical changes. It was found that in patients with heart disease the oxygen debt, which is due to the accumulation of unoxidized products as a result of exercise, was no greater or only slightly greater than normal, and also that there was no change in the acidity of the blood. Slowing of cerebral blood flow could be ruled out as the composition of blood in the internal jugular vein was unaltered. The important factors seem to be the reduction in vital capacity from the encroachment of the congested vessels on the alveolar spaces as was shown by Peabody and his associates (6) and a splinting effect on the lung due to the congestion causing it to be less elastic as demonstrated by Weiss and Robb (7). The loss of elasticity interferes with the Hering-Breuer reflex which determines the onset of inspiration and expiration. As the lung is less elastic less distention is required to initiate the expiratory phase and less collapse to cause the inspiratory phase to commence, thus inducing rapid, shallow breathing. During exercise there is a reflex increase in ventilation in both normals and cardinals. The venous pressure also rises and causes a further reflex stimulation of breathing. This effect is greater in the cardiac due to the fact that the initial venous pressure is higher. In the heart patient also the overventilation after exercise lasts longer as the venous pressure persists at a higher level for a greater period of time. Ray (8) has pointed out that there is a significant drop in the tension of oxygen in the alveoli during exercise in patients with impaired pulmonary circulation or reduced vital capacity. In the normal the oxygen tension becomes increased with exercise.

Orthopnea is a more advanced stage of the earlier dyspnea on exertion. The vital capacity is more reduced and the increased congestion causes a greater

effect on the Hering-Breuer reflex. The increased comfort which the patient experiences in the upright position is due to the fact that in the vast majority of patients the vital capacity is greater in this posture on account of the freer respiratory movements and also to the fact that even in normals there is less blood in the pulmonary circulation when the individual is erect. The pulmonary venous pressure is always increased in the recumbent position.

### *Cardiac Asthma and Acute Pulmonary Edema*

**D**URING sleep the cardiac, who has already a reduced vital capacity and a reflex increase in respiration, has also a depression of his nervous system so that unpleasant stimuli are allowed to reach a point which they would not attain if the individual were awake. Eventually one of these stimuli, usually a cough, awakens the patient and this renders the nervous system suddenly more excitable. Respiratory movements are increased and cause a greater return of blood to the heart. As the left ventricle in these individuals is usually more damaged than the right there is a further increase in pulmonary congestion, thus giving additional respiratory stimulation. This may go on until the lungs become so congested that acute pulmonary edema supervenes. Assumption of the upright position and a diminution of the sensitivity of the nervous system tend to lessen the severity of the attack.



### *Physical Signs*

**T**HE cardinal physical sign of increase in pulmonary venous pressure is basal râles. These râles are due to transudation of fluid from the congested vessels into the alveoli. In the absence of inflammation or a reduction of the plasma protein edema is always due to increased venous pressure. Sometimes the congestion is so severe in the bronchial vessels that bronchial constriction is produced with dry wheezing râles. Hence the misnomer of cardiac asthma.

### *Peripheral Venous Congestion*

**A**S a rule the veins on the neck are congested, the degree of distention varying in proportion to the rise in venous pressure. Here also in the absence of inflammation or low plasma protein, as in nephrosis, edema is always an indication of an increase in venous pressure. Ascites and hydrothorax have a similar origin. Hepatic enlargement in heart disease is only present when the venous pressure is elevated except in old standing cases when a cirrhotic element has developed. This enlargement is due to engorgement with blood of the vessels in the liver, particularly the portal radicles. Should the liver enlargement come on acutely there is hepatic tenderness and pain which are caused by the stretching of the liver capsule. Cerebral symptoms sometimes supervene from congestion and the slow flow of blood in the brain. In the more advanced stages there may be a general anoxemia as well as the local tissue anoxemia due to the slow flow.

### *Venous Pressure in Non-cardiac Conditions*

**T**HIS is normal in hypertension without serious cardiac involvement and also in acute infections such as pneumonia, etc. When evidence of an increase in venous pressure appears in any condition it demonstrates that heart failure has commenced. The importance of this sign in non-cardiac conditions as an indication of the state of the heart cannot be overemphasized.

### *Venesection*

**A**S stated in the introduction this is an ancient procedure and used when the venous pressure is elevated can do no harm while it is often life saving. Several methods are utilized to withdraw the blood. In my experience the old method of cutting down on the vein is the most efficient. The necessary incision is little greater than puncture by a large needle and if a superficial nick is made in the vein the wound heals over and the vein does not become occluded. Another method is the insertion of a needle of large bore with or without the induction of suction. The objection to the latter



method is that the needle frequently becomes blocked, particularly when the flow is slow and blood concentrated. These often are the cases in which the procedure is most desirable.

The amount of blood to be withdrawn should be about 500 c.c. Lesser amounts make no significant change in circulatory volume and consequently do not effect the desired purpose. Venesection acts by lessening the load on the heart so that the cardiac muscle gets a chance to recuperate. It is often so benefited by the decrease in the amount of work that it is able to function more adequately and continue to maintain the circulation in a more normal state thereafter. Sometimes the venous pressure rises again later and venesection may have to be repeated. In my experience if no benefit or only very temporary relief is obtained from venesection in the presence of a high venous pressure further venesection is of no value as it demonstrates that the heart muscle has been so severely damaged that it is unable to carry on an adequate circulation even when the load is reduced considerably.

Many cases have been seen in which venesection has been a life saving procedure. The four cases described below clearly demonstrate its value.

G. H. 57 years of age suffered from arteriosclerotic heart disease and auricular fibrillation of recent origin. He was extremely dyspneic and complete bed rest was ordered. Full digitalisation was without benefit. Soon after his confinement to bed he developed Cheyne-Stokes respiration of a most severe grade which persisted continuously for two and one-half months. During this period very marked edema developed. He received every

known form of diuretic without benefit and had oxygen therapy for a month. Normal rhythm was restored by Quinidine Sulphate without improvement. The condition became progressively worse and death seemed close at hand. A phlebotomy of 500 c.c. was performed and the next day was the best he had had for months. The following day he was not so well so a further 500 c.c. was withdrawn. From then on the dyspnea and edema completely disappeared and in the course of time he resumed his busy practice as a corporation lawyer.

T. W. A 35 year old woman was admitted to Long Island College Hospital suffering from Auricular Fibrillation, Mitral Stenosis and Insufficiency (Rheumatic) and generalised edema. There was marked dyspnea. Digitalization failed to relieve the condition and all diuretics had only a temporary slight effect. The condition remained unchanged at the end of several months but one day a severe rectal hemorrhage took place which was sufficient to reduce the hemoglobin from 94% to 60% and the red blood corpuscles from 5,040,000 to 3,500,000. From then on improvement was interrupted and she left the hospital with no dyspnea or edema. Patient lived for six years in moderately good condition.

R. L. A primipara was admitted to Long Island College Hospital at 3 a.m. suffering from eclamptic convulsions. A phlebotomy of 800 c.c. was performed and morphine given. She was delivered successfully at 6.20 a.m. At 12 noon the color became poor, the pulse rapid and some moist rales appeared in the lungs. As the day went on the condition became markedly worse and the rales began to spread rapidly assuming a coarse character. At this time the hemoglobin was 60%. She was seen at 10 p.m. when she was almost moribund. The pulse was practically imperceptible, the heart enlarged and the sounds of poor quality. The chest was full of moist bubbling rales. It was obvious that acute cardiac dilatation had taken place. Before she was seen by me complete digitalisation had been carried out and she had many forms

of stimulation. Despite the low hemoglobin phlebotomy of 300 c.c. was advised. In a short time there was definite improvement and the next morning the condition was almost completely relieved. She returned home in normal condition.

F. K. A woman of 65 had suffered from generalised arterio-sclerosis and angina pectoris for three years. She had an attack of acute coronary thrombosis and progressed satisfactory until about a month later she developed a severe attack of acute pulmonary edema. Morphine gr. 1/3 had

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## FOREIGN BODIES IN PSYCHOTICS AS AN EXPRESSION OF PERVERTED SEXUALITY

ANYONE familiar with the population of mental hospitals is struck with the marked importance of sexual deviations amongst the inmate population. While this is especially true of men, it is frequently much more marked in female psychotics who give various manifestations of intense sexual desires. In some this is demonstrated by constant and incessant masturbation, in others by obscene conversation with others or talks with phantasy lovers. Some of these are based on frank and open sexual desires, while others bitterly fight imaginary sexual tormentors who apparently are menacing their sexual purity. In many cases the latter is merely an expression of their own desires projected on their environment. In this way the rigid sense of morality imbed in them in early life is not broken but on the contrary is strengthened by their marked and heroic efforts to maintain it. There are other more direct expressions of this loss of the normal sense of sexual inhibition so that frequently direct invitations to coitus are addressed to the various medical officers. In many cases one is singled out especially for particular admiration and the presence of others is resented. Attention of these officers to other patients or conversation with nurses is bitterly resented with marked exaggerations of jealousy. Everyone is particularly impressed by the perpetual sense of jealousy and suspicion that persists among these patients. All gradations of sexual life are demonstrated from normal heterosexual desires to lower levels such as the homosexual, the narcissistic and the autoerotic regressive levels. Frequently disguised sexual behavior is shown in adornment with ornaments, coquetry and jealous anger. The sexual outlet frequently also causes these pa-

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Rochester State Hospital

Rochester, N. Y.

and rebirth phenomena are seen, indicating, in many instances, attainments of sexuality which they were unable to achieve in their normal, everyday life. In the male division of hospitals one is frequently astonished at the indifference and apathy of those present as contrasted with the marked demonstrations seen in the female section. This is true with respect to both female and male physicians. However, various sexual perversions are not at all uncommon in both sexes. Some of these may be briefly mentioned.

*Onanism and/or masturbation* are usually terms used with the same meaning and play a great part in the patients' lives. The extent to which this is practiced is quite marked although no adequate figures can be obtained. This is frequently done shamelessly and openly and for long periods of time. Other sexual aberrations which may be mentioned are:

*Exhibitionism*—in this condition, as is also the case in some of the following methods, the sexual libido, instead of being invested in a great many senses, is implanted upon one particular sensation which it endows with total sexuality.

*Fetishism* consists of the transfer of the love feeling to some object belonging to a real or imaginary lover. These objects frequently may be sufficient to excite sexual desires and to become manifest by masturbation in front of them or by actually substituting the object for normal intercourse. This may

tients to soil themselves with urine and feces. It is not unusual for them to believe themselves to have reached the heights of

sexuality and this is demonstrated by claims of great wealth or of relation to kings, emperors or Jesus Christ. In other disguised forms pregnancy, child birth



**Fig. 1**  
*Pin in intestine.*

be dealt with later.

**Voyeurs**—are individuals who attain their sexual gratification by watching coitus of others.

**Renifleurs**—gain sexual stimulation by the smell of urine.

**Coprolagnists**—obtain a similar excitation by contact with or the swallowing of their excretions.

**Pedophilia**—gain sexual stimulation by relations with children of the opposite sex.

**Pederasty**—indicates male to male coitus in ano.

**Sodomy**—is a similar procedure with an animal. This may also be called bestiality.

**Fellatio**—is sexual relation by means of the application of the mouth to the penis of another.

**Cunnilingus**—is the performance of a similar act with the female genitalia.

**Transvestitism**—indicates a desire to dress in the clothes of the opposite sex.

**Homosexuality**—denotes a regression of sexual desires, which desires are satisfied with members of the same sex. This does not, however, indicate that such individuals cannot marry and produce a family, but they are usually poorly adjusted and marital life is not very happy, although the individuals may frequently be highly intellectual.

In a desire to obtain varying types of sexual satisfaction, the use of foreign objects is a common mechanism in psychotics. Not only are they used in the genital regions but also in other cavities of the body. This is explained by stating that these individuals show a regression to primitive sexuality in which the sexual zone has not become specialized but is present in more or less all parts of the body, especially the mouth, the anus and the urethra. It is manifestly, at times, a difficult matter to prevent the implantation of such foreign objects into inner cavities, although extreme precautions are taken to see that harmful objects are not placed in the hands of these individuals. Unfortunately visitors and relatives do not appreciate the complications that this situation may result in and frequently leave with the patients various objects which may prove harmful.



**Fig. 2**  
*Bent safety pin in intestine.*

Practically all of the cavities of the body have been the sites of the insertion of foreign bodies, with the mouth, rectum and the bladder probably being the commonest sites. Foreign bodies may be impacted in the esophagus but usually remain in the posterior cricoid pharynx above the mouth of the esophagus. If the foreign body passes the latter point, it will usually enter the stomach. Objects of all shapes and sizes have been found in the stomach and intestines, such



**Fig. 3**  
*Piece of hairpin in lower intestine.*

as dentures, vertebrae of fish, pins, especially safety pins, needles, coins and buttons. It is rarely necessary to operate to remove the object which has passed into the stomach. Even sharp objects such as safety pins, common pins, brooches and similar objects will, in the majority of cases, safely traverse the entire alimentary tract. However, in the case of unusually large objects such as knives, forks, spoons, etc., operation will be necessary, although occasionally the latter may be performed without opening the stomach itself, as by manipulating the object through the outer wall of the stomach and attaching it to some instrument.

G. H., #250393, female, age 27, is a very erotic young woman who had previously been very promiscuous and alcoholic. In the hospital she shows numerous evidences of sexual aberrations. She openly solicits coitus, and is a frequent exhibitionist, who is jealous of any conversation by males with female nurses and patients. Her entire conversation is frankly and coarsely sexual with no inhibitions. She managed to twist two hairpins together and swallowed them. Because of their shape in this case they could not pass after a few days and became lodged near the pylorus. Operation was per-

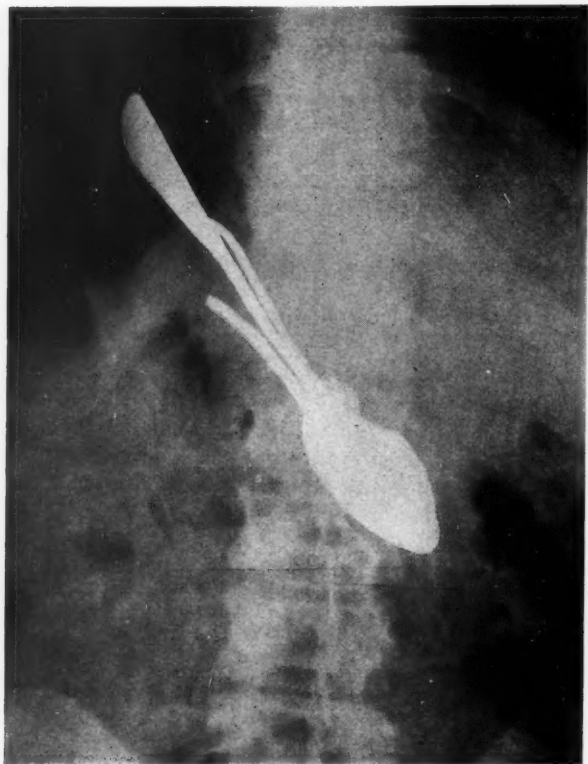
formed very ingeniously. The abdomen was opened and the stomach exposed. Through the outer wall of the stomach the two pins were palpated and straightened out. A stomach tube was then passed and the pins inserted into the opening at the tip and the two pins then drawn up with the tube. Thus the need for opening the stomach was avoided and the procedure changed into a minor operation of opening up the abdomen only. It is interesting to note that a short time later this patient swallowed a tatting shuttle which had been secretly left with her by her mother, who had no true appreciation of the case. The only comment the patient would make in this regard is that she enjoyed the sensation of swallowing foreign objects—a vicarious type of sexual sensation. Outwardly this patient appears intelligent and is a high school graduate who occupied a responsible position as a bookkeeper. Her mental diagnosis is dementia praecox, paranoid type.

**H**OWEVER, expectant treatment would appear to be the best policy. The writer can recall very few complications that have resulted from this form of treatment. In the large majority of cases the patients are thus spared the dangers of operative removal. The writer recalls especially a few cases.

**Fig. 4**  
*Bent safety pin in rectum, having passed from upper intestines as shown in Fig. 2.*



Case P. R., #300752, female, age 23, single, is a very disturbed individual with a diagnosis of psychoneurosis. It is felt that more prolonged study will reveal that she probably is an early case of dementia praecox. She has shown various sexual ruminations and at the present time believes that her mental trouble is due to masturbation. This, incidentally, is a belief that is fairly frequently expressed by psychotic patients. As is well known, it is the individual's reaction to such a perversion rather than the actual habit which is important in producing "mental breakdowns". The young female swallowed a safety pin, apparently in a suicidal gesture. It is felt, however, that the patient's reason was superficial and that the true explanation lay in an abnormality of the psychosexual dynamics. X-ray examination (Figs. 1, 2, 3, 4) showed not only a safety pin with the ends wide open but also a portion of a hairpin which apparently had been previously swallowed and had passed almost to the rectum. It is interesting to note that although the ends of the safety pin were sharp and widely open, there were no symptoms of pain or other signs present. Frequently x-ray and fluoroscopic examinations showed it in various positions in the gastro-intestinal tract, as it apparently frequently rotated in its passage. Conservative measures were instituted and in a few days both were recovered in the stools.

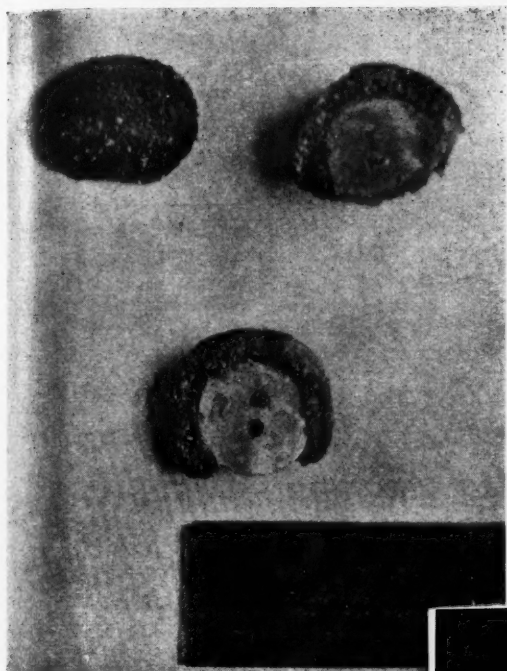


per rectum without apparent damage even though the x-ray picture at that time revealed the pins to be lying in all directions and angles. Unfortunately the picture of this x-ray was lost and cannot be reproduced in this paper. Safety pins are commonly swallowed, as are other objects such as small compacts, brooches, bobbin pins and tatting shuttles. However, the swallowing of very large objects is not exceedingly common and the following case, therefore, is of great interest.

This occurred in a young male patient, diagnosed dementia praecox, who swallowed apparently all available cutlery including a knife, fork, teaspoon and possibly a butter knife.

**Fig. 5**  
*Spoon in stomach.*

In one instance a half-dollar coin became impacted in the esophagus of a patient who previously had frequently exhibited marked onanistic tendencies. From the patient's story he apparently obtained some degree of sexual satisfaction by the swallowing of the above object. In this particular case it was necessary to remove the coin by means of an esophagoscope. Objects which pass into the stomach usually can pass throughout the entire length of the intestines to the rectum with little or no injury in the majority of cases, except when the object has sharp edges. However, the writer recalls one case in which an entire package containing hundreds of common pins was swallowed. In this particular case every pin was passed

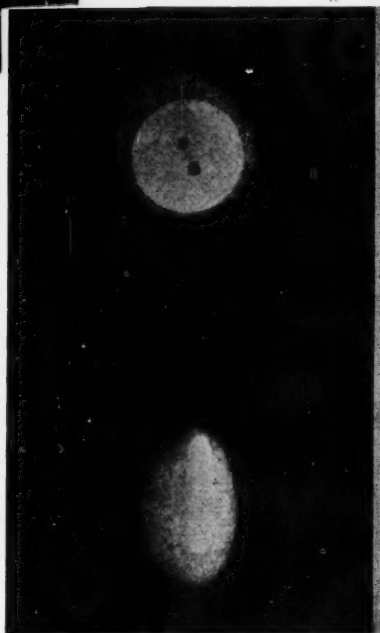


**Fig. 6a**  
*Photograph of the calculus fragments showing the pearl button  $\frac{3}{4}$  of an inch in diameter which formed the nucleus for the resulting calculus.*

butter knife. The blunted sensitivity of these patients is well known and in this particular case no complaint of gastric distress was obtained. Some time later the patient became ill and developed a fever. Examination at this time revealed a large abscess on his back. On opening this, the end of a table knife was seen and removed. This led to further examinations and the taking of an x-ray picture which revealed a condition similar to the one herein reproduced. The patient was seen years later by the writer with the foreign objects still present and it was at this time that the x-ray picture (Fig. 5) was taken, disclosing at least three eating implements still present in the patient's stomach and apparently causing no distress. The patient had previously made an apparently uneventful recovery from the spontaneous perforation of the knife.

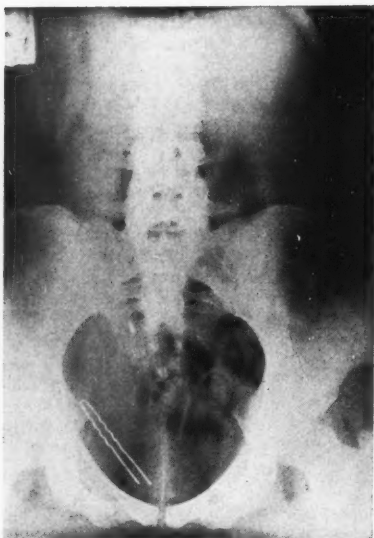
**P**ROBABLY one of the commonest sites for the implantation of foreign bodies is the urethra and bladder, especially in females. It should be remembered that

**Fig. 6b**  
*Front and side x-ray views of the calculus containing the large button.*



the sexual sense is frequently more developed in a female urethra than in any other portion of the genitals, not excluding the clitoris. For this reason this particular site is very commonly irritated by psychotics during masturbatory episodes which occasionally result in the passage of foreign bodies such as hair pins, knitting needles and other objects into the bladder. Some of the latter comprise pencils, keys, candles, bananas, cucumbers, handles of tooth brushes, stems of plants and variety of other objects such as the vertebrae of animals.





**Fig. 7**  
**Pin in Bladder—with perforation.**

The writer reported several years ago the case of a young, married female, C. F. (#212508), who was admitted to a state hospital suffering from dementia praecox. She was an extremely excited and destructive patient who prior to admission had torn off her clothing and run about the street nude. At the hospital she was excited, noisy and hallucinated, and continually attempted masturbation. In 1930 the patient was found to be suffering from an elevated temperature of 101 but there was no apparent clinical or laboratory findings to account for this except an occasional pus cell in the urine. In the following two years the patient again had these temporary elevations of temperature varying from a few days to a few weeks. At this time she developed a moderate pyuria and frequency. It must be emphasized again that such diagnosis in psychotic patients (especially schizophrenics) is difficult because of the indifference and apathy and the blunted sensation of the patients and their tendency to become wrapped up in phantasy problems rather than those of reality. Cystoscopy revealed the presence of a large stone which could not be crushed and accordingly this was later removed by suprapubic cystotomy. On splitting open the stone it was found to contain a pearl button,  $\frac{3}{4}$ " in diameter, which apparently had been torn off the patient's underwear and inserted into the urethra, following which a calculus had developed. The x-ray and photographic pictures are reproduced herewith (Fig. 6). The calculus is shown after being sawn in half.

**I**N addition to the case already mentioned the writer is reporting several additional cases of unusual interest.

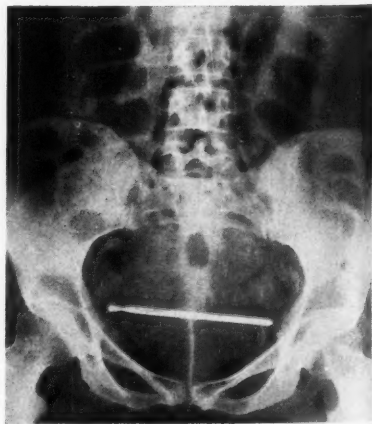
The next case occurred recently in a young female of twenty-two, E. B. (#240027), who was admitted to the hospital three years ago with the diagnosis of dementia praecox. Throughout her

hospital residence she has shown periods of excitement during which she would tear off her clothing, exhibit herself and masturbate shamelessly. On one occasion she mentioned to her mother that she had inserted a hairpin into her vagina. Palpation, however, revealed a hairpin which appeared to be present in the broad ligaments of the left side (Fig. 7). Examination of the vagina with a speculum revealed no area of perforation or inflammation at the point of tenderness where the pin could be palpated. There were no symptoms of urinary discomfort. Here one may digress for a moment and state that in many cases it is frequently impossible from the patient's history to locate the site at which the foreign body had penetrated (as in Case 1) since in the early stages there are frequently no symptoms complained of and at times none may occur for a period of years except in cases where actual trauma has resulted and the attention of the examiner is directed to the proper organ. A flat x-ray of this patient was taken and revealed the pin to be lying with the open end pointing forward and anterior and parallel with the iliac bone. Preliminary cystoscopy was done to rule out the presence of the pin in the bladder, although no symptoms were complained of. The pin could be visualized, firmly imbedded in the bladder wall, which it apparently had penetrated to some extent. Removal was difficult through the cystoscope because of the large size of the object and its firm implantation in the bladder wall. The urethra was finally dilated manually. This is quite easy to do, as in females the urethra is short and easily dilated. By means of the small finger in the bladder the pin was finally freed and rotated and withdrawn. The patient made an apparently spontaneous recovery and within a few days all of her symptoms had disappeared and control of her temporary incontinence was overcome.

Another case in the writer's recent experience was that of

C. M. (#268980), age forty-five, who had been admitted to a state hospital with a diagnosis of dementia praecox. She is an exceedingly excitable, noisy patient who also shows numerous tendencies to exhibitionism and masturbation. She is at present suffering from tuberculosis and is in the tuberculosis ward. While her temperature was being

**Fig. 8**  
**Thermometer in Bladder with perforation into pelvis.**





taken per rectum (this is the usual method with psychotic patients, as oral temperatures are too dangerous because of the tendency of psychotic patients to bite, break or swallow the thermometers), this patient suddenly withdrew the thermometer and, apparently in an attempt at masturbation with it, inserted it into the urethra, from which it apparently slipped into the bladder. An x-ray was taken (Fig. 8) and this demonstrated the thermometer to be lying transversely in the bladder. Vaginal examination revealed the thermometer to be present in the anterior portion of the bladder and it was so firmly imbedded that it could not be dislodged. Ap-



Fig. 9

*Broken end of thermometer in pelvis.*

parently, at the time of insertion, the bladder had been filled with urine and, on emptying, the rugae of the bladder had clamped down over the open ends of the thermometer. The patient, however, showed no signs of urinary distress such as pain or frequency. Urine examination, however, revealed some blood and pus cells. The urethra was dilated, as in the other case, manually, and the thermometer was felt rigidly fixed in the bladder so that it could not be rotated and removed. It was finally necessary to break the thermometer in two. One of the central ends was grasped and removed but the other end could not be found, even on examination with the cystoscope. However, x-ray (Fig. 9) revealed the presence of one of the ends of the thermometer still present in the pelvis. The bladder was filled with 10 per cent sodium iodide solution and this revealed the broken fragment of the thermometer to be outside the bladder (Fig. 10). A suprapubic incision was then made and, on palpation of the lower portion of the right pelvis, the broken end was discovered lying in an extraperitoneal location. It was readily removed. However, the site of the perforation could not be located and, although the bladder had been filled, preliminary to operation, with a fluid, there was no apparent leakage. This confirmed the belief that the broken end of the thermometer had perforated when the bladder had been quite distended and (distention of the bladder with urine is quite common in psychotics), apparently after the bladder had been emptied, the bladder muscles had contracted powerfully, causing the thermometer to penetrate the bladder wall even though it was a rectal thermometer with a flat end. Thus the resultant opening was so small that it could not be located without undue trauma. A large drain, however, was inserted into the extraperitoneal space as a precautionary measure. However, there was no leakage of urine and no incontinence developed. The highest temperature reached was 103° F. prior to operation. There were no marked post-

operative complications in spite of the fact that the thermometer was undoubtedly contaminated with organisms from the rectum.

**F**OREIGN bodies are also frequently found in the vagina and it is very likely that routine examinations would disclose many more objects than are found at present. Attention is frequently called to their presence by the patient or by the presence of a foul discharge or elevation of temperature.

A curious method of sexual stimulation is reported by Talmey, who states that Japanese women use two hollow balls about the size of a pigeon's egg, one being empty while the other usually contains mercury. The empty ball is inserted first into the vagina in contact with the uterus and then the other is inserted over it so that the slightest movement of the pelvis or thighs causes the loaded ball to roll and vibrate, causing a voluptuous titillation. The balls are kept in place by means of a tampon and these women obtain the highest degree of sexual excitement by swinging in hammocks or sitting in rocking chairs.



Fig. 10

*Broken end of thermometer in pelvis. Bladder filled with sodium iodide solution.*

Other cavities which are the source of sexual selection are the external auditory canal and the nose. Patients can frequently be seen with the nose and ears stuffed with rags, papers and other rubbish. This occurs commonly in cases of dementia praecox and manic-depressive and other psychoses.

—Concluded on page 216

## CASE I

### CASE report:

A 53-year old white American salesman was admitted to the Long Island College Hospital November 13, 1937, complaining of cough of eight weeks duration, migratory polyarthritides of two weeks duration and gradual loss of weight and strength.

Eighteen months before admission and continuing until six months before admission the patient had suffered from pain in the calves of the legs on walking, but this had cleared up on stopping the use of cigarettes. Two months prior to admission he had developed an upper respiratory infection with a cough which had persisted after subsidence of the infection. A chest film taken at that time showed peribronchial shadows fanning out from both hila largely limited to the lower two-thirds of the lung fields. The patient was admitted to a university hospital in another city for study. Numerous moist râles were found in both lungs and bronchoscopic examination revealed a severe tracheobronchial inflammation with a viscid mucopurulent discharge. X-ray of the lung was interpreted as "Metastatic malignancy: not typical, or pneumoconiosis"; x-ray of the gastrointestinal tract showed a stenotic lesion at the distal end of the descending colon. Nothing abnormal was found on proctoscopic examination, except a few hemorrhoids. Diagnoses suggested at this time included diverticulitis, granuloma of colon (type not specified), parasitic lesion of colon with secondary lung inflammation, streptothricosis and periarteritis nodosa. The patient was discharged November 1 and returned to Brooklyn, but cough and dyspnea increased in severity, especially during the night. Migratory polyarthritic pains were complained of without evident redness or swelling of the joints. Loss of weight and strength became marked and the patient was ad-

# Clinicopathologic Conferences OF THE LONG ISLAND COLLEGE OF MEDICINE

Brooklyn, N. Y.

mitted to the Long Island College Hospital. There was no history of tuberculosis or cancer in the patient's family. There was no history of hemoptysis, pleural pain or exposure to dust or harmful inhalants. Appetite was good, bowels regular. There had been no melena nor jaundice.

## Admission Findings

ON admission to hospital, temperature was 99.6°, pulse 120, respirations 32 and blood pressure 118/70. Patient was ambulatory. There was no apparent weight loss. Tenderness was present in the left facial artery where it crossed the mandibular margin. Breathing was shallow, rapid; both sides of the thorax moved equally with respiration. Anteriorly, percussion note was vesiculotympanic and there were numerous crepitant, subcrepitant and musical râles. Expiration was relatively prolonged. Posteriorly, findings were similar with decided diminution of breath sounds over both bases. Joints were normal in appearance but there was pain on movement of the arms at the shoulders and on movement of the hips. There were no other significant findings.

Laboratory data: *Blood count:* Hgb 105%; RBC 5.39 millions; WBC 8600; Differential P 70%, L 10%, M 10%, PME 10%. *Urinalysis:* Negative. *Stool:* Negative on five occasions for occult blood. *Wassermann and Kahn:* Negative. *Sputum:* Repeatedly negative for acid-fast bacilli. Culture showed predominance of *Monilia albicans*.

## Chest film, taken November 19, 1937

The x-ray report on film No. 80382, taken November 19, 1937 was as follows:

"Hili and peribronchial densities and in fact all normal lung structures and detailed outline of the heart are obliterated by diffuse generalized fibrosis extending to all the parts of the lung with the exception of the lateral portion of the

mitted to the Long Island College Hospital.

There was no history of tuberculosis or cancer in the patient's family.

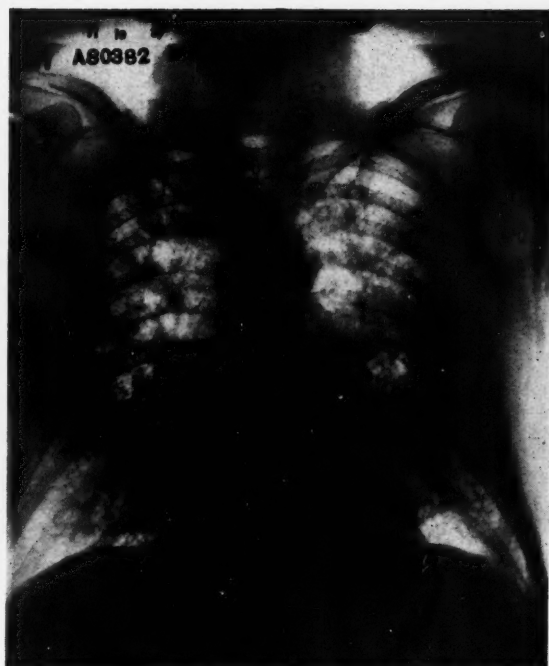
There was no history of hemoptysis, pleural pain or exposure to dust or

apices and lateral portion of the right lower lobe. Changes are most marked between the third and sixth ribs on the left side. There is some evidence of bronchial dilatation in the left lower lobe and there are apparently some areas of peribronchial infiltrative change. However, the pathology seems to be for the most part fibrotic.

"Findings from an x-ray point of view alone are very suggestive of pneumoconiosis, but if this is not possible from the history of exposure to an abrasive dust, one must consider the pathology to be due to fibroid changes following some low-grade chronic infection and, of course, tuberculosis is a probability."

### *Course in Hospital*

TEMPERATURE rose daily to about 100° with pulse rate ranging from 90 to 130 and respirations from 30 to 40. Painful spots developed in various muscles during the first ten days in hospital but biopsy of one of the painful areas showed normal tissue. The dyspneic attacks were not relieved by adrenalin but codeine alleviated the paroxysms of coughing. Appetite was good. Sputum began to contain blood, but there was never frank hemoptysis. Dyspnea increased and the patient was given oxygen by nasal airway. Signs in the lungs varied, areas of consolidation or atelectasis coming and going. Material obtained by lung puncture was sterile. A strain of monilia pathogenic for mice was isolated from sputum culture but this strain was not agglutinated by patient's serum. Intradermal injection of killed organisms caused no reaction. The patient finally lapsed into coma and died on December 21, 1937.



*Chest Film, Taken Nov. 19, 1937*

### *Clinical Diagnosis*

IN discussion which took place at the conference chief consideration was given the following diagnoses:

1. Carcinoma of the colon with metastasis to the lungs. This was favored by the fourth-year students but members of the staff felt that the chest film shown at the conference was unlike that of metastatic carcinoma, for there were no circular areas of increased density but the picture rather of peribronchial infiltration. There were no symptoms referable to the gastro-intestinal tract and there had been no melena, gross or occult.

2. Miliary tuberculosis. Although the x-ray films of the chest resembled that of pneumoconiosis rather than disseminated tuberculosis, for the shading was present chiefly in the lower two-thirds of the lung fields, a majority of the members of the medical staff felt that

tuberculosis was the probable diagnosis, despite the reported absence of acid-fast bacilli from the sputum.

3. Moniliasis was seriously considered as a possible diagnosis while the patient was in hospital but the fatal outcome and the failure to recover the fungus by lung puncture were strong evidence against this condition. One vote was cast in its favor.

4. Periarthritis nodosa. This was thought of during the patient's hospital stay but the negative biopsy and the absence of renal involvement and of neuritis seemed to rule it out.

5. Trichinosis was offered as a possible explanation of the lung changes but not further considered.

6. Pneumoconiosis was suggested by x-ray but history and clinical course were against it.

### Pathological Report

**A**T autopsy there was found opposite the promontory of the sacrum an adenocarcinoma of the sigmoid which formed a sessile rounded mass 5 x 3 x 3 cm. on the posterior wall of the bowel. There was no ulceration of the mucosa, but the tumor had invaded the surrounding retroperitoneal tissues. Both ureters were involved with a resulting slight hydronephrosis. The tumor had spread by way of the lymphatics both down the iliac vessels and upwards along the aorta to the mediastinal and cervical glands. From the hili of both lungs retrograde extension into the lymphatics along ves-

sels and bronchi had reached the pleurae, where thickened cords of tumor tissue could be seen. There was no evidence of metastasis by blood stream invasion such as isolated metastatic nodules in the lungs, liver or bone. The complete anatomical diagnosis was as follows:

1. Carcinoma of intestine, colon.
2. Carcinoma, secondary of lungs, ureters, and peritoneum.
3. Carcinoma, secondary of lymph nodes, aortic, iliac, mediastinal, bronchial, cervical.
4. Stenosis of ureter.
5. Hydronephrosis.
6. Arteriosclerosis, general.
7. Enlargement of heart, due to hypertrophy.
8. Peritonitis, chronic, adhesive.

### Conclusions

1. Carcinoma of the sigmoid may occur without ulceration.
2. Secondary carcinoma of the lung may resemble pneumoconiosis roentgenologically if it extends into the lung through lymphatic channels rather than by way of the blood stream.
3. Lung puncture or bronchoscopy with recovery of the organism is essential for the diagnosis of bronchomoniliasis; the recovery of monilia from sputum may be entirely incidental.

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### VENOUS PRESSURE

—Concluded from page 170

been given before she was seen by me but the condition continued to get worse. On examination the pulse was felt with difficulty. There was marked cyanosis and there were many dry and moist rales in the chest. The neck veins were markedly distended. A phlebotomy of 500 c.c. was performed and the pressure was so high that on incising the vein, without compression of the arm above, the column of blood spouted to a considerable height. There was an immediate response to the venesection and the patient is now able to perform her usual duties at home with only minimal difficulty.

### Summary

**A**N effort has been made to indicate the importance of a study of the venous pressure in cases with heart disease. Its value in these cases is at least as great as that obtained from the estimation of the arterial pressure. No elaborated apparatus is necessary as simple clinical inspection can provide the required information almost as well as the more direct methods. Cases have been cited showing the marked benefit derived from lowering excessive venous pressures by venesection.

## Cultural Medicine

IN 1935 a new journal, the *Indian Journal of Venereal Diseases*, under the editorship of Dr. U. B. Narayanrao, appeared at Bombay, India. Assisted by a distinguished Indian and foreign board of collaborating editors this magazine soon took on a very interesting and valuable character. Representing as it does the most important field in modern medicine in a country which is one of the oldest and most densely populated for perhaps the longest period of time, clearly the most useful work that could be done for society in general by its earliest efforts would be a study of the antiquity of syphilis and venereal disease in India as represented in the ancient medical writings. At this suggestion, a prize was offered by the journal, named for Charaka the "Charak Memorial Prize," for the best thesis on the subject. Many theses were submitted and the prize finally awarded to D. V. Subba Reddy, M.B., B.S., Registrar of the Medical College at Vizagapatnam, for his full, accurate and exhaustive manuscript.

**ARGUMENT** about the antiquity of syphilis may seem academic, of little value to the general practitioner, to modern society, and to our modern life, but the contrary is the truth. Whether the ancients suffered from syphilis, yaws or other treponematal infection, is of the highest importance in the evaluation of the advances and failures of civilizations, both of the past and present. It is obvious, inferentially, that a sufficiently high incidence of syphilis in a race will degenerate all the brains and

lead to national downfall and disaster. The presence of pandemic syphilis, with incidences as high as 50 per cent to 65 per cent, has been found in certain peoples today. It is also another obvious deduction that the relative values to society of communities, races and peoples depend on the relative percentages of syphilis present and over a long period of time determining, as the most constant factor of degeneracy, the quality of their brains, intelligence and behavior. The debacles of past civilizations are rather more clearly understood when the causation of the mental degeneracy which brought about their downfall is seen to be nothing more mysterious than the spread of an infection, acting not only very slowly on the individual ac-

quiring the disease, but extending its degeneracy to the offspring even beyond Moses' "Unto the third and fourth generation."

Psychiatrists, psychologists, philosophers and theologians have intimated that there will be no general cause for atypical behaviorism, insanity, crime or feeble-mindedness ever found, but it will remain for the syphilologist to have the last word and will require a control of syphilis for several generations before, by re-

sults, the truth becomes evident. It is not possible for one who has not watched the destruction of the moral sense by untreated syphilis or who has not followed the slowly developing degeneracy of inherited diseases to credit the variation in minds and brains that results from the destruction of even a few of the cerebral blood vessels during

### ANTIQUITY OF SYPHILIS IN INDIA

A review of the Charak  
Memorial Prize Thesis.

FRANKLIN H. CHURCH, M.D.  
Salem, New Jersey



intra-uterine life by inherited and/or congenital syphilis. The difficulty is the greater, the confusion of thought more complete, when there is also failure to realize that these changes, even in acquired diseases, may take a lifetime to work their results without showing symptoms or being recognizable except by the most acute and exhaustive study including radiography of the chest and skull, the long bones and the hands and feet. The hereditary damage done by syphilis must be evaluated by centuries in national inroads of racial degeneracy.

**A**S Dr. Reddy points out, antiquity is a relative term and, for the purposes of this discussion, anything prior to the discovery of America is antiquity.

"Punarvasu Atreya was a distinguished professor of medicine who attracted many disciples. Six of his students became celebrated as writers of treatises on medicine. The place of honor was awarded to that attributed to Agni-vesha and this was later revised and edited by Charaka. Two other works, the treatises of Bhela and Harita, are still extant. Both are fragmentary and difficult to obtain even for reference." Charaka is assigned an age previous to the sixth century B.C. "The next treatise on Hindu medicine is the Sushruta Samhita, a collection of clinical lectures delivered by the great Dhanvantari, the master surgeon, on the art of major surgery. This is also assigned to the sixth century B.C., but was improved and supplemented by Nagarjuna, the famous Buddhist chemist, about the second century A.D., who is supposed to have added a sixth part. Both these ancient classics are very terse and difficult to interpret. Numerous commentators have annotated the one or the other of the Samhitas.

"Charaka Samhita is the best and most ancient Indian treatise on general medicine. The seats of disease are given as three. (1) Cakha, external seat of disease; includes skin lesions, ulcers, warts, leprosy, eruptions. (2) Vital parts and bone joints; pains in bones and joints; diseases of the head and heart. (3) Kosta, includes the great internal cavities. Suppression of the urine and deep abscesses belong in this

group. With regard to etiology he emphasizes both the predisposing and the exciting causes. 'The accidental becoming aggravated follows the constitutional disease. Similarly, the constitutional becoming aggravated follows the accidental.'

"That he fully realized the important rôle of the blood in causing disease is shown by the following passage. 'In consequence of the blood becoming impure different kinds of diseases spring up. There are sores in the mouth, pustules in the nose, suppuration in the globe of the eye, ozena, fetid smell in the mouth, SYPHILIS [so translated from Charaka's Sanskrit word upadamsam by Avanisa Chandra Kaviratna—Ed. MED. TIMES], general lassitude, discharge of blood through the urinary channels, dysmenorrhea, leprosy, headaches, stupefaction of the understanding, dimness of vision, itching of the body, pains, eruptions, tuberculosis, and cutaneous eruptions called charmandala. All these are due to diseases of the blood.' Among the drugs mentioned for cases of leprosy are mercury corrected by sulphur and mercury mixed with Yogaraja." Here, the obvious inference is that there must have been some spirochaetal disease present 2500 years ago in India which exhibited skin eruptions cured by mercury, but mercury is valueless in leprosy. Jefferys and Maxwell found in China that "mercury and iodide were not only useless in leprosy but actually harmful." Mercury seems to have been the earliest known antisyphilitic drug and is also somewhat efficient with the primitive type of syphilis, yaws and Dr. Hudson's "bejel" of the tent Bedouins of the Euphrates valley.

**A**MONG Charaka's descriptions of swellings there is a condition, Vidarika, 'That swelling which appears in the groins or axillae accompanied by fever; takes a cylindrical size; is without pain; whose surface is hard and wide.' Among the twelve malignant abscesses he describes there are a few suggestive of gumma; the atiputika (of excessive fetidness); kumbhimuka (resembling the mouth of a jar). But what is more astonishing is the mention of pakshaghata (paralysis) and unmada

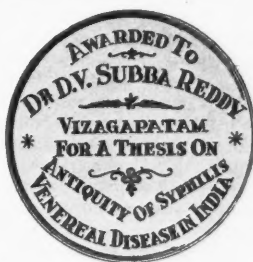


and nasal septum and loss of tissue in the face itself. These we now know are spirochaetal in origin and are not confined to any particular race nor to any particular corner of the world. Consult Job's description of what happened to his face and breath and the loss of recognition that the changes in his face brought him. These lesions are probably a combination of inherited and acquired treponematoses. I am treating at present a woman, white, 55, native American, married, who, thirty-five years ago while carrying her first child, had such an extensive lesion of her nose and palate that

(insanity) as some of the supervening ailments of abscesses.

"The nose has always been looked upon as a favorite site for syphilis. Charaka mentions excessive indulgence in sexual congress as one of the causes of 'pinasa' and other diseases of the nose. He refers to an inflammation ending in 'suppuration of the outward extremity of the nose with fever, dryness of the mouth, thirst, hot and yellowish discharge from the nose. If this is neglected it takes a malignant form manifested by continuous sneezing, swelling of the nose, obstruction of the nostrils, fetid discharges

"CHARAK MEMORIAL PRIZE" GOLD MEDAL



awarded to  
Dr. D. V. Subba Reddy, Medical Registrar, Vizagapatam,  
for his Thesis on  
"ANTIQUITY OF SYPHILIS (Venereal Diseases) IN INDIA."

her nose shrank, the cartilage practically disappeared, and healing took place with great scarring in the fauces and with a large opening through the anterior hard palate and a circular ring in the posterior nasopharynx. The diagnosis in a reputable hospital then was "consumption of the throat." A Virginia physician more conversant with the gangosa of the Negroes blamed her ancestry for it. She is now under treatment for tabes dorsalis, well developed but with Wassermann negative. A son has an atypical positive Wassermann; is married to a woman with an atypical Wassermann and they have six living children. The woman with the gangosa has borne eight living children. There is living near here a typical gangosa in a white male, 60, who has the characteristic loss of tissue

from the nose, fetidness of the nose and mouth, loss of the sense of smell accompanied by suppuration, swelling, tumors, pus and blood.' Through neglect of nasal catarrh 'putinasya' (ozena) is generated. 'The symptoms of it are discoloration of the nose, fetid smell, swelling and swimming of the head.' There is also reference to 'the cartilage that separates the nostrils and the nose and eyes showing signs of drying up and wasting.' He also warns physicians against undertaking the treatment of 'a patient the bridge of whose nose becomes thick and appears to be swollen even when he is not suffering from a dropsy'."

THIS brings to mind "syphilis of the center of the face," or gangosa, with its enormous destructive lesions of palate

and a large opening into the nasopharynx at the side of the nose. It is not at all uncommon in luetic clinics to see cases of gumma of the nose in which some cartilage is lost but adequate treatment interrupts the process; the bridge of the nose sinks but the major deformity is avoided.

"Syphilis in the female is likely to suggest itself on reading the description of 'putraghni' (a word meaning those whose children are destroyed), in which disease 'through dryness, the wind repeatedly destroys the fetus, born of vitiated blood, as soon as conceived in the womb.' Medicated oils are recommended for women 'of premature pregnancy whose embryo has been removed' and also to 'women whose embryo is dead at an early stage of gestation.' Congenital syphilis may be vaguely conveyed by one of the passages on the defects of breast milk. Talking of wet nurses and their milk, Charaka points out that in some cases the child gets 'head disease or nasal catarrh' (snuffles). 'The child's complexion becomes discolored, skin is hot, refuses sucking; is afflicted with asthmatic breathing, cough, running and watering of the mouth and nose.' 'The child's mouth and eyes begin to swell and the child becomes stupefied.' Even syphilis in the third generation is hinted by the following passage: 'When the menstrual fluid becomes vitiated, she begets a child (daughter) who is sure to bring forth dead children'."

**DR. REDDY** then comments that while these crude statements collectively give "a fair outline of a picture suggestive of syphilis, there is an elaborate description of a disease which compares favorably with and resembles some of the classic descriptions of the early syphilographers of Europe." He then goes on to quote a lengthy extract from Charaka: "The disease is vatarakta: (vata is wind and rakta is blood; therefore the whole word means wind-blood); it is described as a kind of leprosy (cutaneous disease). This word was sometimes taken to mean gout or rheumatism."

Continuing, Dr. Reddy comments upon an editorial note to the translation of Charaka: "Kustha is a general term

applicable to all diseases of the skin. Charaka differentiates vatarakta from kustha. . . . Formerly kustha occurred in a virulent form and was referred to as being due to heinous sins, but, at the present day, so-called sufferers from leprosy rarely suffer from vatarakta." Dr. Reddy remarks, "Instead of saying that lepers rarely suffer nowadays from vatarakta, one may as well say that vatarakta was a distinct entity, common enough in those days to induce Charaka to devote a chapter to it, and that disease might have been no other than the syphilis of that age."

The causes of vatarakta are numerous, according to Charaka, but sexual intercourse is definitely there. "Premonitory symptoms are darkness of complexion, insensibility to touch, excessive pain in the sores, slackness of joints, aversion to exertion, languor of limb, appearance of pimples, piercing pain in knees, calves and thighs, hands and feet and other joints; cutting pains; heaviness of limbs; itching, repeated appearance and disappearance of pain in the joints; loss of natural color, discoloration, circular disfigurative marks on the skin.

**"THE** disease is of three kinds: (1) Uttana (superficial), involving skin and flesh. (2) Gambhira (deep), involving inner tissues and organs. (3) Combination, both deep and superficial. (1) Superficial variety characterized by 'Itching, burning pain, swellings that are extended, feeling of exhaustion, sensation of being pierced with needles, throbbing contractions and dark coppery colour of the skin.' (2) The deep variety: Swellings attended with stupefaction of limbs affected, hardness of the same, excessive pain which is deep seated, coppery colour of the skin, burning sensation, throbbing and suppuration. . . . pain and burning in joints, bone and marrow within, tearing and bending the parts affected. It also moves about the entire body, producing crippling. (3) When all the symptoms appear, the disease is vatarakta embracing both varieties.

"Now comes the most amazing part of the description. Charaka gives the following pictures and symptoms when one of the doshas predominated (in modern parlance, when one of the systems bears

the brunt of the attack). (1) Vata-predominant (neurosyphilis?) — 'Extension or contraction of nerves, piercing pains, throbbing and cutting pains, blackness, dryness, darkness of complexion, increase and decrease of swellings, seizure of limbs and their stupefaction' (paralysis). (2) Blood-predominant (cardiovascular syphilis?) — 'Swellings accompanied by pain, sensation of being pierced by needles, running discharges, pain that may be characterized as 'chima-chima', that is, pulsating. (3) Bile-predominant (hepatic syphilis?) — 'Burning of the skin, pain, faintings, sense of inebriety, vertigo, redness, supuration and sharp cutting pains and swellings.' (4) Phlegm-predominant — Here the symptoms are all mild. Pain is mild; loss of appetite and heaviness of limbs. This probably agrees with the present-day picture of latent syphilis. (5) When the disease advanced and the following symptoms had supervened, treatment is considered to be hopeless. The unfavorable indications are 'insomnia, headache, faintings, sense of inebriation, stupefaction of the mind, tremors, hiccup, loss of power and locomotion and affections of the organs of sense.'"

This is not such a bad outline for a description of general paralysis. For many years the greatest stumbling block in the way of the general acceptance of the presence of syphilis in ancient times has been the failure to find in the medical writings of the ancients any description of a condition which could be interpreted as paresis. It has seemed impossible that such a condition should not be recognized if it was present in peoples of the remote past. Charaka's description of advanced vata-rakta does not seem to require any great stretch of the imagination to make it applicable to our modern picture of paresis. Modern textbooks give symptoms quite similar. Sleeplessness, headache, vague pains, neurasthenia, loss of power of attention, dreaminess, 'give the impression of being drunk . . . have been arrested by police officials for this reason' (Hazen), convulsive seizures (faintings), dementia (stupefaction of the understanding), Argyll Robertson pupil, speech defects, (affections of the organs of sense), loss of power and locomotion.

This does not seem to need comment and Charaka's recital coincides rather well with modern delineations even if written in the sixth century B.C.

IF Charaka has dealt with medicine as an internist and dermatologist, it is Sushruta's great distinction to have written the first great book on surgery. Upadamsam, a disease which has been labeled syphilis by modern translators, is thus described: 'An inflammatory swelling of the genitals, whether ulcerated or not.' . . . 'The disease owes its origin to the action of local doshas aggravated by promiscuous sexual intercourse, etc.' There is a long list of causes relating to coitus as a source of the disease but they indicate chiefly that the source of contagion was an infected partner in intercourse. He describes five types: (1) Vataja, falls into none of the clean-cut clinical types. (2) Pittaja type, sets in with fever; penis becomes swollen, assumes the colour of a ripe Indian fig (reddish-yellow), attended with a sort of intolerable burning; rapid suppuration; accompanied by pain; suggests a soft sore. (3) The kapaja type nearly resembles what is now described as a hard chancre. 'The penis becomes swollen, hard and glossy; marked by itching and a variety of pain. (4) Raktaja type, probably cancer; the organ bleeds heavily and is covered with eruptions of large black vesicles; fever, thirst, burning sensation; palliation alone may be effected.' (5) The Sannipata variety is an acute manifestation, phlegmonous in type; symptoms of vata, pittah and kapha manifest themselves. 'The organ cracks; ulcers become infected with parasites and death comes in to put a stop to the suffering of the wretched victim.' Sushruta's observation in the chapter on the prognosis of ulcers that 'ulcers in the region of the organs of generation can be healed easily' would warrant the conclusion that they might have been simple hard or soft chancres.

THIS description of lingarsas (fig warts or condylomatous growths about the genitals) is wonderfully accurate. The disease begins with an itching sensation; the parts become ulcerated; 'ulcers become studded with sprout-

like vegetations of flesh (warts) which exude a kind of slimy, bloody discharge. These growths appear on the inner margin or on the surface of the glans penis in the form of soft slender vegetations of skin resembling the hair of a small brush.' He has not omitted the description of a similar growth in the female. The following is a picturesque description of bhagarsas. "The deranged vayu, etc., of the body lodged in the vaginal region of a woman gives rise to similar crops of soft polypi in the passage. They may crop up, isolated at the outset, and by coalescing may assume the shape of a mushroom or an umbrella, secreting a flow of slimy, foul-smelling blood."

"Sushruta's description of Parivartika (phimosis) is accurate. 'When the integument of the penis (prepuce) is affected by deranged vayus it forms into a knot-like structure and hangs down from the penis: marked by pain and burning sensation; sometimes suppurates. But if the condition is due to aggravated KAPHAM, the knotty growth becomes hard and is accompanied by itching.'" (Phimotic chancre, not at all uncommon today).

In another chapter Sushruta describes a further series of diseases of the penis, allowing us to infer that they were not only well known conditions but also very common. On skin diseases he mentions the 'copper coloured patch of leprosy and ringworm.' "The chapter on kshudra rogas (minor ailments) contains some cutaneous syndromes that bear resemblance to some of the protean forms of cutaneous syphilis. In the treatment of the cutaneous disease a medicated, clarified butter containing mercury is recommended as a cosmetic.

IN the chapter (Ch. No. I) on the two types of ulcers, the description of types gives us no clue as to the location and nature of the diseases but in the list of sixty different lines of treatment are included the following: (1) Uttaravasti karma (urethral and vaginal injections), suggesting ulcers of the urethra and vagina. (2) Nasyas (snuff) and kavaladharana (holding the drug in the mouth) for diseases of the oral cavity, and dhuma (smoking). These suggest ulcers of the nasopharynx. (3) Here is a passage which may well refer to

gumma. 'An ulcer which is indurated, whose edges are thick and round, which has been repeatedly burst open and the flesh of whose cavity is hard and elevated . . . an ulcer with a hard and elevated bed . . . deep and foul smelling ulcers, covered with layers of deranged tissue. . . . Apply alkali for long-standing sores of indurated character with margins raised higher, itching and chronic.'

"The eruption described as valmika may in all probability be one of the late secondary or tertiary manifestations of syphilis. 'Knotty, indurated eruptions gradually appear on the soles, palms, joints, neck and other regions above the clavicle and resemble an anthill in shape; slowly gaining in shape. . . .'"

There is an old medical saying that an eruption of pimples or pustules on the palms and sole is probably either smallpox or great pox. The comparison between the yaws of Guinea, le pian or epian, and the so-called crab of the sole of the foot and the palm of the hand, green crab and dry crab, etc. (Admiral Charles S. Butler), must be borne in mind in all these descriptions of the ancient diseases of India.

**SYPHILIS** of the center of the face, gangosa, is again suggested in Dr. Reddy's quotation from Sushruta: "Putinasya is described thus—"The disease in which the fetid breath is emitted through the mouth and nostrils owing to the presence of deranged nayu mixed up with other doshas in the throat and above the roof of the palate.' One of the causes of this disease is excessive indulgence in sexual intercourse. Two other descriptions offer scope for imaginative guessing. The avrannasukra is a 'whitish film on the black portion of the eye, like a speck of transparent cloud on a sky, attended with lacerimation and slight pain.' (Phlyctenular conjunctivitis). Akshipakatyaya is 'a whitish film over the black part of the eye slowly shrouding it entirely with its mass, attended with acute pain'."

It so happened that as I was reviewing this passage a fourteen-year-old boy was brought into the office who had been suffering from a little pain in his left eye with some photophobia and lacerimation. There was present some injection of the conjunctiva and clouding of the inner

half of the cornea. The pupil was small, irregular and a little fixed. Ten years ago a sister was attacked the same way; found to have a positive Wassermann and treated for her congenital syphilis to a certain extent but she eventually died in other hands from some complication. This boy was given 0.13 Gm. bismuth subsalicylate, metaphen eye drops, 1 to 10,000, and a blood specimen taken. In forty-eight hours marked relief was apparent and the Wassermann was reported positive to three antigens.

"Lastly, Sushruta even refers to inherited and congenital diseases, which may include a reference to syphilis. 'Adivalapravritham includes diseases due to inherent defect in semen or ovum of the parents.' Janmavala-pravritham deals with diseases due to 'improper conduct on the part of the mother during the period of gestation.' Among these maladies are mentioned congenital blindness, deafness, dumbness and monstrous aberrations of nature. Among the diseases of infants we come across ahiputana, a sort of itch-like eruption appearing about the arms of the child owing to a deposit of perspiration, urine or feces. It soon assumes an eczematous character, exuding a purulent discharge, and spreads, proving very obstinate in the end. But the treatment is more suggestive. The breast milk of its mother or wet nurse should first be purified by a course of rigorous treatment. The ulcers are to be treated by plasters of harital and sulphates of iron and copper, etc."

**T**HERE is a third writer among the ancient physicians of India, who with Charaka and Sushruta make up the "Vridha Trayam" or "the old triad" of medical antiquity in India. "Vagbhata II of Sind composed a famous and popular work as a synopsis of the medicine of the day. It is a 'made-easy series' or a summary of the previous literature in simple language. The age of this compilation has been much discussed but it is assigned a date prior to the sixth century A.D., when these three classics were translated into Arabic.

"Dealing with twenty-three diseases of the private parts he describes upadamsam. The causes are (1) Trauma in intercourse after a long interval. (2) Intercourse with a woman whose vagina

is diseased" (comment: nine other causes are cited all having to do with intercourse or perversion). "Of the five types of upadamsam, the pittaja type manifests itself with fever, the penis swollen like a ripe fig. The Kaphaja presents a hard, itchy, cold and weighty appearance and sounds very suspicious. In the rak-taja type, there are black pitakas with bleeding and fever (condylomata?)." [Comment: Dr. Reddy's thesis is so replete with suggestive allusions to syphilis that only the more important may be mentioned]. "Nivarittam, a disease in which 'the skin of the penis is swollen and painful with or without an ulcer; at the end hard and itchy and hangs beyond the corona.'" [Comment: phimotic chancre again!!].

"A disease of the nose called pinasa, one of the causes of which is excessive sexual intercourse, is described. Pinasa shows the following symptoms: Thirst, fever, boils in the nose, ulcers at the tip of the nose; yellow, reddish and hot discharges; neglected it becomes malignant. Severe complications set in such as fever, breathlessness, cough and pain in the chest. There is bad fetor and swelling in the mouth. The nose dries up; nostrils coalesce; white and red pus-like discharge flows from the nose." [Comment: The picture of gangosa, syphilis of the center of the face, is quite clear].

Continuing from Dr. Reddy's thesis: "Referring to the diseases of the female, he mentions Yonyarsa, 'the vitiated doshas, pervading blood and muscles, cause fleshy growth inside the penis or outside. They are very itchy. Similarly in the vagina there arise fleshy growths like umbrellas in shape giving rise to sticky, bloody discharge.'"

**D**R. REDDY also mentions a writer of the eighth century A.D., Madhava, who wrote a 'Nidanam,' a treatise on pathology and diagnosis. This is only a collection of scattered principles. Referring to Kustha, he says: "'sexual intercourse, bodily contact, breathing air exhaled by the diseased, eating side by side, sleeping in the same bed, sitting on the same seat, wearing the same clothes and garlands, these acts spread the disease.'" In fact these contacts suffice to spread syphilis, gonorrhea or yaws in any age or period.



QUOTING Dr. Reddy: "There is another very important consideration which should be borne in mind in examining treatises for evidence of syphilis. The natural history of disease is an example of indeterminacy. Time and treatment have brought about numerous changes in the clinical manifestations of the disease. The latest researches are just opening our eyes to the modifications of the typical textbook picture of syphilis brought about by race and environment." He leaves the question undecided as to whether syphilis was or was not present in ancient India.

IN order to gain the perspective of the modern student of syphilis critically re-examining opinions as to the antiquity of syphilis it is necessary to emphasize phases of the more recent advances in knowledge of infection with the treponemata. The spirochaetaceae or the treponematae are organisms constituting a definite group many of whose members are parasitic on human beings. Dr. Warthin first suggested that syphilis was nearly the most perfect symbiosis in nature; a parasite living in its host without quickly destroying it. Members of this group apparently attack different tissues and for that reason produce varied effects. From the standpoint of the clinician whose experience extends into thousands of cases; who has followed them for a decade or longer; who is conversant with that which finally happens to them and to their families, it is evident that there is no general immunity excited in human beings by the disease. There is, however, a tissue immunity which is excited by infection with either syphilis or yaws; each one of which protects for a certain time against the other. Neither man nor animal may be infected at the same time with both diseases. The tissue immunity to the one must die away before the other may be inoculated on the same individual. The body does not form antibodies to these organisms as does the system which is attacked by diphtheria or typhoid. It is true that some substance in the blood which is aroused by the action or life of this parasite in the host does stimulate the formation of a reagin which gives the Wassermann and related tests

for the disease. It has never been shown that this substance has any antitoxic power, and it is not even specific for syphilis, but is produced by other treponemata such as the so-called *Treponema pertenue* of yaws. It is easily demonstrable that the sensitivity of the test varies greatly for different laboratories; for different varieties of the test and for the varying types of the disease in different patients. A positive test, either of the Wassermann, Kahn or Kolmer type, does not differentiate the different types of syphilitic disease nor does it in any way separate yaws and syphilis. For instance, a positive Kahn test cannot indicate whether the syphilis is of the acquired, prenatal or inherited type. I have under observation an ex-navy man whose blood Wassermann and spinal fluid were repeatedly negative, as were his wife's also while he was in the service. These negatives were recorded from 1930 to 1934. The following year his blood, tested with the sensitized Kahn, was reported ++00; the next month +000; Sept., 1935 ++00; July, 1937 ++00; the same test in another laboratory, ++00. This man is symptomless but has stained scars. He did have a period of service on the Island of Guam, where for nearly forty years the Navy Medical Corps has been studying yaws. Naturally no interpretation of the significance of this reaction may be made at the present state of our knowledge, and observation throughout his own lifetime may fail to solve the riddle.

THE recent work on yaws and syphilis tends to show that these two diseases are probably identical, though there are two schools of thought on the subject with cogent arguments on both sides. Many of us consider that yaws is a primitive syphilis in a race or people so highly infected that the tissue immunity present in the people makes the disease picture depart very greatly from that of civilized syphilis and that such a disease transmitted as a disease of childhood or of casual contact is the type which would be chiefly described in the writing of the earliest physicians. With the development of monogamy and hygiene we then find the treponematoses becoming diseases of sexual contacts, the syphilis of modern civilization. As



Admiral Butler has remarked: "Treatment and control of yaws in the Island of Guam has now reached a point where the inhabitant of the island may go to Manila or Japan and acquire syphilis in the usual manner." Descriptions of lesions of yaws in ancient writings are definitely evidence of the presence of the treponematoses in antiquity.

A second point which must be emphasized is the value of the evidence relating to Lacapare's "syphilis of the center of the face," "gangosa," so called from the nasal voice which accompanies the disease. Much has been said to give the impression that this is a lesion of yaws only, and found only in the tropics. This is of course untrue, as Admiral Butler has shown; it was described in North Carolina by Brickell in the early eighteenth century in his "Natural history of North Carolina," published in Dublin in 1737, just two hundred years ago. The quotation is: "The Yaws are a disorder not well known in Europe, but very common and familiar here; it is like the Lues venerea, having most of the symptoms that attend the pox, such as nocturnal pains, Botches, foul eruptions, and Ulcers in several parts of the body, and is acquired after the same manner as the Pox is, viz., by copulation, etc., but is never attended with a gonorrhoea in the beginning. This distemper was brought hither by the Negroes from Guinea, where it is a common Distemper among them, and is communicated to several of the Europeans or Christians, by their cohabiting

with the blacks, by which means it is hereditary in many families in Carolina and by it some have lost their palates and noses." The significance of a gumma of the nose whose progress is interrupted by treatment is the same as the disease of the untreated savage whose disease results in a hole in his face. A description of destructive lesions of the nose in peoples of several thousand years ago does not require a diagnosis of syphilis. The treponematoses of primitive peoples were the same then as now.

D.R. REDDY'S thesis contains some eight chapters of exceedingly learned and exhaustive material and will repay the thoughtful consideration of any interested student. In his last chapter, he comments: "The germs of disease are no exceptions to the laws of nature: They may undergo changes in shape or activity due to differences in environment, in the atmosphere or in the human body. Some of the most common diseases now produce symptom complexes which are quite different from those recorded in ancient days. Williams, summarizing the opinions on the relationship of syphilis to yaws, called 'syphilis of the Tropics,' 'stone age syphilis,' 'twin brother of syphilis,' etc., suggests that the spirochaete of both these diseases had the same spirochaete for an ancestor and that one of the spirochaetes has undergone a functional but not a morphologic mutation in the human host in comparatively recent times."

There is a bibliography of sixty citations appended. 86 WEST BROADWAY.

## EDITORIALS

—Concluded from page 165

Of course there is a problem of medical indigency and one of the "medically poor" class. The causes and the remedies are not obscure.

The causes are rooted in our sick social order. They are related to insufficient food and clothing and bad housing as well as to lack of medical care.

Remedy number one, as far as medicine is concerned in the minds of our critics, is a debased, mass production form of practice, carried on by a lower order of practitioner along bureaucratized and politicalized lines as a social palliative, leaving the cause of

the people's wretchedness untouched. Medical care, of a sort that is considered good enough for the unfortunate recipients, would thus be extended to all.

Remedy number two, as far as medicine is concerned in the minds of physicians, is a free profession, highly qualified, caring for an economically underbased people. In such circumstances good medical care would be available to all the people who cared self-respectingly to purchase it.

When it comes to remedy number two, we fear that *laissez-faire* psychology is to be looked for mostly in the direction of the *New York Times* and the school of thinkers that it typifies.

# MEDICAL JURISPRUDENCE

Edited by Gustave J. Noback, Ph.D.

Secretary of the Society  
of Medical Jurisprudence

IN presenting this paper the author noted that this subject was discussed before the Society of Medical Jurisprudence five years ago, in March, 1932. At that time, the attitude of the American courts toward the blood test as evidence in paternity cases was very conservative. But since that time the attitude of the courts has changed considerably; and two states, New York and Wisconsin, have granted power to the courts to order blood tests in paternity disputes.

The blood group tests are based on the fact that the red blood cells contain certain substances which appear early in life; are constant throughout life and are not changed by environmental influences; and are demonstrable by agglutination tests with various sera.

The four blood groups based on the A and B factors were discovered by Landsteiner in 1900, who pointed out their significance in blood transfusion, showing that recipient and donor must belong to the same group, otherwise the clumping reaction occurs in the circulation causing serious, if not fatal, consequences. In 1919, Hirschfeld, making studies of the various races concentrated on the Macedonian front, found the incidence of the four blood groups to vary considerably in different races. In his analysis of these racial differences Bernstein was led to formulate the accepted theory of the heredity of the

blood groups. In 1927-1928, Landsteiner and the author described other blood factors known as M and N; studies by many workers confirmed the original theory of their heredity. So that now with the combined use of the blood groups as first described by Landsteiner and the M and N system it is possible to detect 33 per cent. of all false accusations of paternity.

## THE USE OF *Blood Tests* IN PATERNITY DISPUTES

PHILIP LEVINE. M. D.

Department of Laboratories,  
Beth Israel Hospital.

Newark, N. J.

THE four blood groups are determined in the following way:

"When normal sera, which contains the specific antibodies for A and B, are allowed to react with suspensions of red blood cells of various individuals,

the resulting agglutination reactions display a distinct regularity. Under such conditions 4 sorts of bloods can be readily demonstrated

(1) a type of blood not agglutinated by any other serum (group O); (2) another type is agglutinated by all other sera (group AB); the other two types are such that the serum of the one acts on the red cells of the other (groups A and B). In practice only sera of groups A and B are the two reagents required for diagnosing the blood groups of any individual."

According to the Bernstein theory of heredity the four blood groups result from the combination of any two of the three genes (the genetic unit in heredity) O, A, and B; the genes A and B are dominant over the recessive gene O. All

### An Abstract

The original article was read before the Society of Medical Jurisprudence on February 8, 1937, at the New York Academy of Medicine.

possible combinations of the three genes result in six genotypes and four phenotypes. These four phenotypes, *i.e.*, blood types or blood groups, are O, A, B, and AB. According to the Bernstein theory, the dominant properties A and B can never appear in the blood of a child unless present in one or both parents. The second rule is that a person of group AB cannot have children of group O, irrespective of the group of the other parent; and a parent of group O cannot have children of group AB. The Bernstein theory has been amply confirmed from a statistical consideration of the racial differences in the incidence of the four blood groups.

"After an experience of four years, mainly in Germany, but also in other countries, more than 6,000 official court cases were tested and in 546 or 8.2 per cent. a definite decision of illegitimacy or false accusations of paternity could be rendered.

"Considering only the four blood groups, 16 out of 100 known false accusations could be detected. The value obtained is about 50 per cent. of the maximum value of 16 per cent. since not all of the paternity accusations are false; a good many of them must be quite correct."

THE technic for the demonstration of the M and N blood properties, described by Landsteiner and the author in 1927, is considerably more involved than that for the four blood groups, because the antibodies specific for these blood properties must be reduced in rabbits after injection with blood containing the corresponding properties.

"However, with the use of specific antibodies for M and N respectively, three sorts of blood can be demonstrated, a type containing only the property of M, a second containing N and a third type of blood reacting with both antibodies, or type MN. A blood lacking both M and N does not exist. Since M and N are independent of the four blood groups, twelve sorts of bloods can readily be differentiated. . . . Landsteiner and Levine investigated the heredity of these properties in numerous families and established that this system of indi-

vidual differences is also available for practical application in paternity disputes.

"In the case of M and N there are only two genes, each of equal dominance. Their combination—one derived from the father and the other from the mother—forms three genotypes to which correspond the three phenotypes (serologically recognizable types)."

ACCORDING to this theory, "a child of the type M cannot come from a parent N; and a child N cannot come from a parent M. These considerations are based upon the fact that the homozygous form in contrast to A and B is serologically distinct from the heterozygous form; and in this respect, the MN system is superior to the AB system in giving more exclusions when the blood of the child and only one of the parents is available.

"It has been calculated by Wiener that for the white population, an exclusion of paternity, based on the tests for M and N, can be made in 18 per cent. of all false accusations. Since M and N factors are independent of A and B, serological proof of non-paternity at the present state of our knowledge is available in about one-third of all cases. Actually, Schiff, of Berlin, using both systems, obtained about 15 per cent. of the maximum; since in practice, as is to be expected, not every accusation is false.

"It may be added that this theory has also been confirmed in a mathematical analysis of racial differences in the incidence of the three types."

IN enacting legislation in regard to the use of the blood tests in deciding questions of illegitimacy and paternity, it is important that the law should clearly state (as in the Wisconsin law) that the three persons concerned shall "submit to one or more blood tests, to determine whether or not the defendant can be excluded as being the father of the child. The results of the test shall be received as evidence, but only in cases where definite exclusion is established."

# Cancer

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THE editors of this Department are convinced that one of the important factors in the solution of the Cancer Problem is to be found in the development of better cooperation between the patient and the physician. On the part of the patient, symptoms that may mean cancer should be promptly reported to a physician. On the part of the physician, a painstaking study of the symptoms presented should be made and under no circumstances should the patient's complaints be dismissed lightly or after superficial examination.

Both parties, the patient and the physician, should be convinced that it is possible to cure cancer. At the present time the presentation of evidence that individuals who have been treated for cancer, the diagnosis having been established beyond reasonable doubt, are living without recurrence longer than five years after treatment, is of importance.

For the past seven years the New York State Committee of the American Society for the control of Cancer has been making an annual report of the patients treated in the hospitals of Rochester, who

## SURVIVALS FOR TEN YEARS AND MORE OF PATIENTS TREATED FOR CANCER IN THE HOSPITALS OF ROCHESTER, NEW YORK

Reported at the Thirteenth Annual Meeting of the New York State Committee of the American Society for the Control of Cancer, held at St. Mary's Hospital, Rochester, N. Y., December 14, 1937.

are known to be living without recurrence for at least five years. In every instance three competent pathologists have examined the sections of the growths and have agreed with the diagnosis.

The annual follow-up has shown some late recurrences; but on the whole, we feel that we are able to show that, as it is at present understood, cancer can be cured.

We record the status of the patients reported in past years; as shown in chart 1.

ONE of the patients who was operated for cancer of the breast has been under treatment for several years for pernicious anemia.

Another patient who was operated for cancer of the breast in 1925, was operated in 1934 for cancer of the cervix. Neither has recurred.

Last year there were twenty-three patients of the

group reported in 1930 living and well. In the past twelve months a patient who had been treated for cancer of the cervix, and one for cancer of the lip, have been lost. One patient reported living without recurrence of cancer of the breast died of pneumonia two weeks before the report was read.

In 1931 we reported twenty-one patients living without recurrence at the

**CHART I**  
*Twelve Years and More With No Recurrence*

<i>Date of Treatment</i>	<i>Organ Involved</i>	<i>Hospital</i>	<i>Surgeon</i>
1925	BREAST	HIGHLAND	DEAN
1925	BREAST	HIGHLAND	FOWLER
1925	BREAST	GENERAL	PRINCE
1925	BREAST	ST. MARY'S	SIMPSON
1925	CERVIX	HIGHLAND	T. JAMESON
1925	ILEUM	GENERAL	PHILLIPS-PRINCE
1925	ILEUM	GENESEE	CHAPMAN
1908	STOMACH	HIGHLAND	T. JAMESON
1925	CECUM	GENERAL	WRIGHT-J. JAMESON
1925	INTESTINE	ST. MARY'S	COSTELLO
1925	CECUM	PARK AVENUE	BOWEN
1925	TESTICLE	ST. MARY'S	COSTELLO
1925	TESTICLE	HIGHLAND	T. JAMESON
1925	OVARY	HIGHLAND	T. JAMESON
1925	KIDNEY	ST. MARY'S	SIMPSON
1925	CERVICAL	GENESEE	SUMNER
	LYMPHNODES		
1925	LIP	HIGHLAND	T. JAMESON
1925	LIP	HIGHLAND	T. JAMESON
1924	OVARY	PARK AVENUE	HENNINGTON
1925	UTERUS	HIGHLAND	T. JAMESON

SUMMARY: TWENTY CASES AS FOLLOWS: BREAST, 4; CERVIX, 1; ILEUM, 2; STOMACH, 1; CECUM, 2; INTESTINE, 1; OVARY, 2; TESTICLE, 2; KIDNEY, 1; CERVICAL LYMPHNODES, 1; LIP, 2; UTERUS, 1.

**CHART II**  
*Eleven Years With No Recurrence*

<i>Date of Treatment</i>	<i>Organ Involved</i>	<i>Hospital</i>	<i>Surgeon</i>
1926	BREAST	STRONG MEMORIAL	W. J. M. SCOTT
1926	BREAST	ST. MARY'S	SIMPSON
1926	BREAST	ST. MARY'S	SIMPSON
1926	BREAST	GENERAL	WOODEN
1926	BREAST	GENERAL	PHILLIPS-PRINCE
1926	CERVIX	GENESEE	A. E. DAVIS
1926	CERVIX	GENESEE	A. E. DAVIS
1926	CERVIX	GENESEE	A. E. DAVIS
1926	CERVIX	PARK AVENUE	HENNINGTON
1926	STOMACH	PARK AVENUE	WARD-SUTTER
1926	STOMACH	STRONG MEMORIAL	W. J. M. SCOTT
1926	STOMACH	STRONG MEMORIAL	W. J. M. SCOTT
1926	SIGMOID	ST. MARY'S	SIMPSON
1926	SIGMOID	GENESEE	DICKINSON
1926	TESTICLE	GENESEE	PAINE
1926	URETHRA	GENESEE	PAINE
1926	CERVICAL	GENESEE	A. E. DAVIS
	LYMPHNODES		
1926	SARCOMA	GENESEE	A. E. DAVIS
1926	LIP	ST. MARY'S	SIMPSON
1926	UTERUS	ST. MARY'S	SIMPSON

SUMMARY: TWENTY CASES AS FOLLOWS: BREAST, 5; CERVIX, 4; STOMACH, 3; SIGMOID, 2; TESTICLE, 1; URETHRA, 1; CERVICAL LYMPHNODES, 1; SARCOMA, 1; LIP, 1; UTERUS, 1.



end of the five year period. One patient, reported by Dr. Frank Barber as having had an enucleation of the eyeball for sarcoma of the choroid in 1926, is reported as having died of carcinoma of the liver in another city. The death certificate gave the cause of death as "Carcinoma of the liver," of six months' duration. There was no autopsy. One of the cases of carcinoma of the breast has been lost. One case of cancer of the breast, operated in 1926, has been added from the cases reported in 1934, so that there are the following eleven year survivals; as shown in chart II.



**I**N 1932 we reported twenty-three cases of carcinoma and sarcoma treated in the Rochester Hospitals in 1927: fifteen of the breast, four of the cervix, one of the sigmoid, two sarcomata and one hypernephroma.

This year one of the breast cancer patients has been removed from the list because further study of the histologic material has led to its classification as

benign. So that there are twenty-two cases to be accounted for. Sixteen of these patients are living without recurrence, 72.72 percent, and so become ten year cures this year. Three are dead; one case of cancer of the breast from diabetic coma and one of cerebral hemorrhage. One of the cases of cancer of the cervix died from paralysis agitans. Three cases have been lost.



**S**O we have a record of fifty-six patients living, without recurrence for from ten to twelve and more years after treatment. With the proof that it is possible to obtain an apparent cure in cases of cancer, more careful and exhaustive study of individual cases ought to result in an increasingly numerous list of ten year survivals.

*The three charts present the essential facts of each of these cases.*

**CHART III**  
**Ten Years With No Recurrence**

<i>Date of Treatment</i>	<i>Organ Involved</i>	<i>Hospital</i>	<i>Surgeon</i>
1927	BREAST	GENESEE	SUMNER
1927	BREAST	GENESEE	SUMNER
1927	BREAST	STRONG MEMORIAL	T. B. JONES
1927	BREAST	STRONG MEMORIAL	MORTON
1927	BREAST	STRONG MEMORIAL	MORTON
1927	BREAST	STRONG MEMORIAL	W. J. M. SCOTT
1927	CERVIX	GENESEE	A. E. DAVIS
		PARK AVENUE-	
1927	CERVIX	STRONG MEMORIAL	LATH-ALWARD
1927	CERVIX	GENERAL	STEWART
1927	SIGMOID	GENERAL	PRINCE
1927	PENIS	ST. MARY'S	SCHANZ
1927	PROSTATE	PARK AVENUE	LENHART
1927	LYMPHOSARCOMA	GENESEE	SUMNER
1927	FIBROSARCOMA	STRONG MEMORIAL	T. B. JONES
1927	UTERUS	GENESEE	A. E. DAVIS
1927	UTERUS	GENESEE	A. E. DAVIS

**SUMMARY: SIXTEEN CASES AS FOLLOWS: BREAST, 6; CERVIX, 3; SIGMOID, 1; PENIS, 1; PROSTATE, 1; SARCOMATA, 2; UTERUS, 2.**



## ROENTGEN THERAPY IN HEART DISEASE

1. Forty-eight patients with rheumatic heart disease have been treated by Roentgen irradiation of the heart and have been observed during the past 11½ years.

2. In a considerable number the evidence indicated that radiation therapy exerted a favorable effect upon the lesions in the heart and upon the course of the disease. Those receiving the larger number of treatments, as a general rule, fared best.

3. Irradiation relieved cardiac pain in patients who did not have aortic insufficiency.

4. No harmful effects were noted. Unpleasant radiation reactions appeared in about half the cases.

5. Cases with low grade activity and without signs of congestive heart failure appear to be most benefited.

6. The manner in which improvement is initiated is not known. It is believed to be due to an altered response of the cardiac tissues induced by the rays.

7. Roentgen irradiation of the heart, in the present state of knowledge concerning rheumatic fever, deserves a place as a therapeutic measure in properly selected cases of active carditis.

—R. L. LEVY and ROSS GOLDEN

in *Amer. J. Med. Sciences*, Nov., 1937.

## FEDERAL CONTROL OF HOSPITALS

Senator J. Hamilton Lewis at a meeting of the representatives of the American Medical Association said, in effect, "whether you like it or not you must be prepared for some form of regulated medicine."

He intimated that the control would be from the federal government. How that would operate is illustrated in cities where there are naval training stations. In these locations, a naval doctor is delegated by the naval authorities to take care of the civilian dependents of the enlisted men.

In a city of 30,000 people it has been found that the average attendance at the dispensary of the naval hospital from this civilian population was twenty-three a day; the house calls from ten to twelve a day. In addition to this, operations requiring hospitalization would average two to three a week. It can be readily understood when services of this kind are furnished, the income of the local physician is markedly affected.

Specifically, if one-half the dispensary cases paid, and that is a fair average, it would amount to about seven thousand dollars a year; one-half of the house cases would mean an income to the doctor of about ten thousand dollars. It is difficult to apply any average to operations but it can be estimated not less than five thousand dollars a year so that it would aggregate close to twenty-five thousand dollars a year. This amount is taken out of the income of the civilian practitioner.

It is true that this is a service to the enlisted personnel, but if the same services are given to the citizens at large the income of the local doctor will be diminished.

What is to be done? Unless the physicians as a whole give this question serious consideration, and adopt a method agreeable to all, it is believed the government will step in and make plans whether the doctor likes it or not.

Editorial: *Rhode Island Med. J.*, Dec., '37.



## Contemporary Progress

### ✚ Medicine ✚

#### *The Interdependence of Gastric Secretion and the CO<sub>2</sub> Content of the Blood and Its Significance in the Alkaline Treatment of Peptic Ulcer*

E. D. KIEFER (*American Journal of Digestive Diseases*, 4:667, December, 1937) reports a study of electrolytes of the blood in patients with peptic ulcer under treatment with sodium bicarbonate. From this study he concludes that alkalosis under such treatment results, not so much from renal impairment, as from the fact that excess sodium is absorbed without the introduction of an equivalent acid radical. This results in chloride depletion, increase in the bicarbonate concentration of the plasma and a rise in the free CO<sub>2</sub>. This would explain the clinical observation that alkalosis occurs more readily in cases with active ulcer and high gastric secretion, because this involves the neutralization of excessive quantities of hydrochloric acid with resulting increase in the amount of sodium absorbed. Studies of the effect of changes in the blood electrolytes including an increase of CO<sub>2</sub> on the gastric secretion showed that in the clinical cases studied, an increase in blood CO<sub>2</sub> did not appreciably affect the gastric secretion except for a slight tendency "to decrease the quantity of hydrochloric acid secreted by the stomach in a unit time." These clinical findings do not confirm certain animal experiments that indicate that gastric secretion is augmented by an increase in blood CO<sub>2</sub>; at least there was no evidence of an increase in hydrochloric acid secretion to a degree that would contraindicate the use of alkali in the treatment of peptic ulcer.

#### COMMENT

*An important contribution. Chloride depletion is one of the most dangerous con-*

*ditions we are confronted with. There should be more frequent blood estimations of sodium chloride and more CO<sub>2</sub> combining power estimations.*  
—M.W.T.

#### *Mitral Stenosis; A Correlation of Electrocardiographic and Pathologic Observations*

K. BERLINGER and A. M. MASTER (*Archives of Internal Medicine*, 61:39, January, 1938) present a study of the electrocardiographic records of 113 cases of mitral stenosis of rheumatic origin in relation to the pathological findings at autopsy. They found notching of the P wave to be the principal electrocardiographic sign of mitral stenosis. Marked increase in the height of the P wave was found only when there was also an involvement of the tricuspid valve with hypertrophy of both auricles; in these cases the notching of the P wave was generally marked. Right ventricular preponderance was found in less than half the cases of uncomplicated disease of the mitral valve; and cannot be regarded as a characteristic sign of mitral stenosis. Right ventricular preponderance was found generally in the "button-hole" type of mitral stenosis, but was still more frequently due to an associated lesion of the tricuspid valve. Left ventricular preponderance never occurred in mitral stenosis unless disease of the aortic valve was also present. The voltage of QRS was never above normal in mitral stenosis unless aortic insufficiency was also present. The electrocardiogram of pure mitral insufficiency differed from that of mitral stenosis in that the P wave was normal or nearly normal; auricular fibrillation or flutter never occurred in pure mitral insufficiency and ventricular preponderance was never to the right. Change from right ventricular to left ventricular preponderance or *vice versa* occurred only when mitral stenosis was associated with lesions of both the tricuspid and the aortic valve.

# COMMENT

*X-ray may also help in the diagnosis, the fluoroscope showing a dilated left auricle. The notching of the P wave and a flattened border indicates mitral stenosis but it is well to use the electrocardiogram as one of the spokes in the wheel of diagnosis, combining it with clinical symptoms, past history, etc.*  
—M.W.T.

## Sulphanilamide in the Treatment of Beta-Hemolytic Streptococcal Infections

P. O. HAGEMAN and F. G. BLAKE (*American Journal of Medical Sciences*, 195:163, February, 1938) report the use of sulphanilamide in the treatment of cases of proven beta-hemolytic streptococcal infection. Sulphanilamide was usually given orally in amounts not exceeding 5 gm. daily in divided doses. In the early part of the study protosil was given in a few instances by intramuscular injection; later when parenteral administration was necessary crystalline sulphanilamide was used (0.8 per cent. in physiological saline). Oral administration of the drug was the method of choice whenever possible. In 27 cases of erysipelas treated with sulphanilamide the results were "quite satisfactory;" further spread of the lesion occurred in only 3 cases (11 per cent.). There were 3 deaths, in 2 cases death "did not seem attributable to the erysipelas or the treatment." In the third case the erysipelas had entirely disappeared, and the patient died of renal insufficiency, "possibly aggravated by the sulphanilamide." Of 5 cases of meningitis treated, 3 died but only one of these could be considered as

"a therapeutic failure;" the 2 recoveries represent the only cases which have survived a beta-hemolytic streptococcal meningitis in the New Haven (Conn.) Hospital in ten years. In other cases treated the impression was gained that sulphanilamide modified the course of the infection favorably, "although the results presented fall far short of proving this point." The most common complication of sulphanilamide therapy was cyanosis, which occurred so frequently that it may possibly be regarded as a "natural concomitant of the administration of the drug." Drug fever occurred in 14.96 per cent. of the cases treated by this method; in about half of these cases the fever was accompanied

by a rash. Nitrogen retention occurred in 3 cases (2.6 per cent.); hepatitis, secondary anemia and thrombocytopenia in one case each. Sulphanilamide is, therefore, "far from being non-toxic" and, the authors state, "one is forced to consider seriously before advocating its widespread usage, at least for the milder forms of streptococcal infection."

### COMMENT

*An interesting article which should be read in its entirety. Perhaps if there were more fre-*

*quent checks on the blood and urine for sulphanilamide, it would be possible to prevent overdosage, thereby eliminating many toxic effects of the drug. Drug fever would seem to be beneficial in some instances. Careful laboratory diagnosis should be made before the drug is used. There is a tendency to use it in a haphazard manner for infections, assuming that they are streptococcal before cultures are made.*

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## Pancreatitis and Diabetes

H. O. MOSENTHAL (*Annals of Internal Medicine*, 11:1001, December, 1937) states that while it is generally taken for granted that diabetes mellitus is of pancreatic origin, the exact pathological changes responsible for the development of diabetes are not clearly defined. Primary chronic pancreatitis develops in elderly persons as a result of arteriosclerosis and "senescent processes." This type of pancreatitis, when it produces lesions of the islands of Langerhans, is the cause of the slowly progressive form of diabetes in late middle life and old age, known as the essential diabetes of Naunyn. It should be definitely distinguished from the forms of diabetes occurring in younger individuals and characterized by exacerbations. Diabetes may result from secondary chronic pancreatitis or cysts or hemorrhage within the pancreatic tissue, provided that a sufficient number of the islands of Langerhans are destroyed. This type of diabetes is usually mild and non-progressive unless there is a recurrence of the pancreatitis "which extends the involvement." Acute pancreatitis of a mild type with less destruction of pancreatic tissue than in the severe acute cases may be the cause of diabetes. The clinical manifestations of chronic or acute pancreatitis depend upon the specific element of the pancreatic tissue involved. If the islands of Langerhans are involved there is a disturbance of carbohydrate metabolism; whether diabetes develops or not depends upon the number of these islands that are destroyed. Thus, as shown by the illustrative cases reported, an acute pancreatitis may result in diabetes, may or may not aggravate an existing diabetes, or may cause a transient diabetes that later clears up. While the disturbance of carbohydrate metabolism in diabetes also results in deficient oxidation of fats, the metabolism of fat is a pancreatic function "apart from that of carbohydrate utilization." In pancreatitis, therefore, there may be a disturbance of fat metabolism with hypercholesteremia and lipemia, independent of any disturbance of carbohydrate metabolism. This, the author believes, explains the presence of hypercholesteremia in cases

of mild diabetes in which the carbohydrate metabolism is well controlled and there is no acidosis. Two illustrative cases are reported. In cases where there is obstruction of the pancreatic ducts, with the consequent lack of the external secretion of the pancreas in the intestines, the typical "pancreatic stools" result. This symptom may be associated with diabetes due to destruction of the island of Langerhans; in such cases the diabetes may precede the appearance of the pancreatic stools, or may develop only after the closure of the pancreatic ducts "has become manifest."

### COMMENT

*This clears up some of the questions about the senile type of diabetes. In one case of cancer of the pancreas, I found that the blood sugar varied from day to day; at times the blood sugar would be high and the urine sugar-free. I wonder if these fluctuations in blood sugar are of value in the diagnosis of such conditions. Some of these old diabetics seem to thrive without insulin, perhaps because they have mild forms of the disease.*  
—M.W.T.

## Vitamin C in Heart Failure

W. EVANS (*Lancet*, 1:308, Feb. 5, 1938) notes that in a study of the excretion of vitamin C in man, Abbasy (1937) found that the administration of ascorbic acid had a definite diuretic effect. The author made a study of the diuretic effect of vitamin C, administered as redoxon tablets, in 8 cases of heart failure and one case of edema of the extremities of unknown origin. In all the urinary output was increased by the redoxon tablets; in 2 cases the diuresis was slight, in 4 cases "either moderate or considerable," and in 3 cases marked. When an estimate was made of the excess of urinary output over fluid intake in the 9 patients for a period of 173 days, it was found that vitamin C induced greater diuresis than digitalis, but less than theobromine, diuretin, or ammonium chloride. In 3 cases with auricular fibrillation vitamin C induced greater diuresis than digitalis, but did not produce the same degree of clinical improvement as the latter drug, nor reduce the ventricular rate. These results indicate that vitamin C has a definite diuretic effect, and that in cases of



heart failure an adequate intake of this vitamin should be provided. If redoxon is not given, the patient's diminished fluid intake should include "an adequate proportion of lemon and orange juice."

#### COMMENT

*Interesting. Since it is possible to determine the amount of vitamin C in the blood one can approach these conditions on a scientific basis. It is known that vitamin B<sub>1</sub> is indicated in certain heart conditions. Why not use vitamins C and B<sub>1</sub> as preventive measures when the blood shows an indication for their use? Unfortunately the test for vitamin B is not perfected.*



#### Cutaneous Healing in Wounds

J. H. CONWAY (*Surgery, Gynecology, and Obstetrics*, 66:140, Feb. 1, 1938) discusses the effect of technical details in surgical incision and suture on the degree of fibroblastic response in clean incised wounds and upon the ultimate cosmetic effect. His conclusions are based on the appearance of scars one to three years after operation in relation to the variations in the technique employed. In 100 patients in whom an oblique incision had been made in the right lower quadrant of the abdomen, 62 showed a widening of the lower end of the scar; one a tendency to keloid formation; 37 showed "ideal healing" with a minimum scar. His observations in these cases lead him to conclude that Langer's lines of elasticity run transversely in the suprapubic area rather than obliquely vertical, as Langer represented them. In 225 patients in which a vertical incision was made in the right upper quadrant for operation on the biliary tract, uniform widening of the scar in 118 patients was noted; this is attributed in part to the postoperative gain in weight that occurred in many of these patients; in 23 cases there was an irregular scar; and in 84 ideal healing and minimal scar. Increased mobility of the upper abdominal wall due to respiratory movements is also an unfavorable factor influencing the healing of wounds in this area. In

25 midline incisions in the lower abdominal region, there was an irregular scar in 13 cases; and minimal scar in 12 cases. All but 2 of the cases showing an irregular scar were sutured with catgut. In 50 cases in which the collar incision was used for thyroidectomy, 41 showed ideal healing and minimal scar, 9 a slightly hypertrophic scar. From a study of these results, the author concludes that factors in the technique of incision and suture that favor ideal healing and minimal scar are: Placing the long axis of an incision parallel to Langer's lines of elasticity of the skin; care that the incision into the skin is not beveled; adequate undercutting of the skin and subcutaneous tissue flaps so that tension on the cutaneous suture is minimized; the use of silk ligatures and sutures. For the suture of wounds of the face, the use of fine arterial silk on small straight needles for approximation of the edges of the skin has been found to give the best cosmetic results. The use of crêpe lisse dressing impregnated with collodion, as advocated by Halsted, has been found to be of definite value in lessening the stress on a sutured wound in the early stages of healing.

#### COMMENT

*Very interesting and desirable studies in the ultimate effects of the type of incision upon contour and appearance of resulting scar. An encouragement to be intelligent and thoughtful in seeking ideal cutaneous healing.*  
—C.H.G.

#### Immediate Surgery in Acute Cholecystitis

H. M. CLUTE and J. F. LEMBRIGHT (*New England Journal of Medicine*, 218:72, Jan. 13, 1938) find that surgical opinion is gradually shifting in favor of immediate operation in acute cholecystitis. Recent investigations have shown that obstruction is the primary factor in the causation of acute cholecystitis and "is a prerequisite to infection." It is "obvious," in the authors' opinion, that "immediate removal of the obstructed viscus before infection has occurred is the procedure of choice." Of 29 patients with acute cholecystitis seen since January 1, 1935, in the author's private practice and at the Massachusetts Memo-

rial Hospital, Boston, Mass., one was moribund on admission to the Hospital and died of perforation of the gall-bladder. The remaining 28 patients were operated and all recovered. "In theory" it is best to operate on patients with acute cholecystitis within forty-eight hours after onset of symptoms, but in practice, the surgeon rarely has opportunity to operate within this period. The medical profession "has not yet reached the position of recommending immediate surgery in this disease." In 12 of the authors' cases operation was done four days or less after onset. In all of these cases convalescence was rapid and uncomplicated; there was no high fever and no serious reaction; these patients "did not react postoperatively" like cases of abdominal infection. In 11 of these 12 cases the gall-bladder was removed; in one it was merely drained, because of the patient's marked obesity which made cholecystectomy technically difficult. In 16 cases operation was done five to fifteen days after the onset of the acute attack. Several of these patients had a "stormy" convalescence, and some had severe postoperative complications. As a group they appeared definitely sicker than the group operated earlier. The gall-bladder was removed in 13 of these 16 patients, and in 3 only drainage was done, because of perforation of the gall-bladder and abscess formation around it. In the delayed operations, cholecystectomy proved more difficult than in the early operations, as there was more edema around the cystic duct and cystic artery, making their identification difficult. If patients are admitted to the hospital in the later stages, the authors do not advise immediate operation, but keep the patient under observation for "hours or days" giving fluids and glucose; if there is evidence of spreading infection—rising white blood cell count, rising temperature and heightening pulse—immediate drainage of the gall-bladder is indicated; otherwise operation is done later. It is only in the early stage of the disease before infection has developed that immediate cholecystectomy is advised.

#### COMMENT

*Observations which seem to prove that very early operations in cases of acute*

*cholecystitis are highly desirable. A reasonable conservatism is observed in late cases.*  
—C.H.G.

#### *Homogenous Thiersch Grafting as a Life Saving Measure*

A. G. BETTMAN (*American Journal of Surgery*, 39:156, January, 1933) states that it is well known that homogenous skin grafts (*i.e.*, skin grafts from another person) do not take permanently. They do, however, take temporarily. He has found that such grafts remain in place two to five weeks, usually at least for three weeks, but that they finally disintegrate, leaving in their place "a moist granular flaky substance." During this time that the grafts remain in place, the areas covered by them are healed for the time being and free from infection. The patient is "rid of these areas of sepsis" for this period. The general condition of the patient improves, the temperature drops, the pulse and respiration and the blood count improve. There is an increase in appetite and strength and general well-being. By the time the grafts come away the sepsis is markedly reduced and the patient's condition so much improved that skin grafts may be taken from the patient's own body without danger, and with the assurance that they will take in a field that is much less infected. The use of homogenous skin grafts is, therefore, a temporary measure, but often a life saving measure in cases where large areas of skin are destroyed with resulting infection, as in severe burns. Two illustrative cases are reported, both in children with severe and extensive burns; in one case 80 per cent., and in the other 60 per cent. of the body surface was involved. In one case the skin grafts were obtained from the father and in the other from the mother, after matching the bloods. In both cases the condition of the patient improved markedly while the grafts remained in place, and both made a good recovery with all areas well healed after skin grafting from the patient's own body. Without the temporary homogenous skin grafts, these patients "must have succumbed to their own sepsis."

#### COMMENT

*A remarkable case report (two cases)*

which seems to demonstrate clearly the proposition of the reporter. —C.H.G.

### A Pre- and Postoperative Nutritional Regimen

M. A. BRIDGES (*New York State Journal of Medicine*, 37:2009, Dec. 1, 1937) describes a pre- and postoperative regimen which has been found to prevent postoperative acidosis and many postoperative complications. This regimen has been carried out in all elective operative patients without selection of cases. For five days prior to operation a diet low in fat and roughage and high in carbohydrate is given. Fluid intake is increased by giving mineral waters and diluted fruit juices, as plain water in the increased amount necessary is often distasteful to the patient. Salt is given in capsules (No. 1 or No. 0), two of which are given after each meal and on retiring; the food is also well salted. Any drastic catharsis necessary should be done at least forty-eight hours before operation; soap and water enemas may be given whenever necessary. Mild sedatives should be given during the five-day pre-operative period. Opiates, particularly morphine, should not be given as a routine either pre-operatively or postoperatively; the use of sedatives will often render morphine unnecessary. With proper pre-operative preparation with adequate fluids, no fluid need be given in any form for eighteen to twenty-four hours after operation. Postoperative diet depends upon the condition present; but as a rule fat and roughage should be avoided for at least five days; and frequent feeding of small amounts of food is preferable to large meals.

#### COMMENT

This paper from an anesthetist suggests very clearly that the majority of operations of election are not properly prepared for operation nor is the postoperative care based on known physiological facts. A very instructive article. —C.H.G.

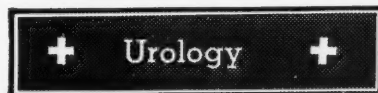
### Treatment of Infected Wounds With Glycerine

O. A. CANNON and H. T. EWART (*Canadian Medical Association Journal*, 38:176, February, 1938) report the use of glycerine packing in the treatment of

infected wounds. The area is first cleansed and the infected wound packed tightly. Glycerine is poured over the loose end of the packing and the wound covered with a dry bandage. The glycerine is changed daily, but very little pain is caused by packing the wound and none by removing the dressing. Three illustrative cases are reported in which this method was used—one case of infected hand, and two of abscess in which the glycerine packing was used after incision and drainage. The results with this method have been so satisfactory in the six months in which the authors have used it that they are convinced that it is "worthy of more widespread use."

#### COMMENT

A novel method of handling infected wounds. —C.H.G.



### The Medical Treatment Of Urinary Infections

D. M. DUNLOP (*British Journal of Urology*, 9:359, December, 1937) found that pure *B. coli* infections predominated in his cases of urinary tract infections; and mixed infections with *B. coli* predominating were present in a considerable percentage of the remaining cases. The daily use of "drastic purgatives" with resulting colitis was a frequent cause of these infections; and in other cases gross lesions of the colon or rectum were often present. In the treatment of *B. coli* infections, the author has found mandelic acid the most effective drug, provided the urine can be rendered sufficiently acid by the use of ammonium chloride. The chief objection to mandelic acid is that it often causes gastro-intestinal disturbances, and it is therefore difficult to give a sufficient dosage in ill patients, and those with gastro-intestinal symptoms. But if the mandelic acid was tolerated in adequate dosage (12 gm. a day) for a sufficient length of time, it was found to be almost invariably successful in nonobstructive *B. coli* cases. Relapses were apt to occur,

however, unless the primary cause of the infection could be successfully treated. In those cases in which the urinary tract infection was associated with the use of drastic purgatives to correct constipation, it was found possible to treat this condition by diet, re-education in proper bowel habits and the use of bran and liquid paraffin instead of the purgatives. In such cases the mandelic acid treatment of the urinary infection was "extremely successful." The treatment of *B. proteus* and staphylococcus infections proved much more difficult; in these cases it was often impossible to render the urine sufficiently acid for the mandelic acid to be effective. In 2 such cases with alkaline cystitis neo-salvarsan given by injection in doses of 0.3 gm. twice a week for six weeks gave good results. In cases of coccal and proteus infections, where all methods of medical and local treatment fail to clear up the infection and cystitis, the author recommends transplantation of the ureters "by an expert." In 9 cases recently treated with prontosil, excellent results were obtained in pure *B. coli* cases; prontosil appeared to act more rapidly than any other urinary antiseptic in these cases. Other drugs tried were ineffective.

#### COMMENT

*The problem of urinary antiseptics is still one of maximum activity of the drug at the part of the kidney chiefly involved in the infection. The source of the Bacillus coli must be the intestines, as its name indicates. Hence all these patients should have treatment of the flora of the intestines no matter whether self-treatment with purgatives is being practiced or not. Very often these patients have 90 per cent or more Bacillus coli in the stools instead of the normal 60-65 per cent. Moreover, some of these patients have the active destructive type present.*

—V.C.P.

#### Peritoneal Lavage in the Treatment of Uremia

J. B. WEAR, I. R. SISK and A. J. TRINKLE (*Journal of Urology*, 39:53, January, 1938) note that the degree of uremia is evaluated clinically by determining the nonprotein nitrogen retention in the blood, but that the most toxic element present in the blood has not been identified. Experimental work

by various investigators indicates that this toxic element of uremic blood is dialysable and "has nitrogen in its makeup;" and also that it can be removed from the blood by lavage of the peritoneal cavity with a suitable fluid. In their experiments with dogs, the authors found that Hartmann's solution properly buffered employed for peritoneal lavage lowered the nonprotein nitrogen of the blood, had little effect on the mineral constituents of the blood, and caused no marked reduction in the alkaline reserve of the blood. If not properly buffered, this solution causes acidosis. Any increase of the acidosis in uremia is, of course, to be avoided. In one patient admitted to the hospital in *extremis*, peritoneal lavage with Hartmann's solution reduced the nonprotein nitrogen of the blood to some extent, but had little effect on the clinical condition of the patient. In other cases Locke-Ringer's solution with a pH of approximately 7.6 was used for peritoneal lavage. In one case the nonprotein nitrogen of the blood was definitely reduced by peritoneal lavage on two occasions; the patient showed considerable improvement, but died fifteen days after the second lavage. In this case the alkali reserve of the blood was low, and fell but little during lavage, but could not be increased by any of the usual measures; the unfavorable outcome in this case is to be attributed to this persistent acidosis. In another case, the peritoneal lavage resulted in reduction of the nonprotein nitrogen of the blood to normal, and a slight rise in the alkaline reserve; a cystostomy for the removal of bladder stone was done later. In 2 other patients in *extremis*, peritoneal lavage removed "large amounts" of nonprotein nitrogen from the blood, but both patients died, both showing an extremely low alkali reserve which could not be changed. The procedure of peritoneal lavage caused the patients little or no discomfort and had no ill effects. Its use is advocated chiefly in the treatment of cases where the kidneys are not "hopelessly damaged," and there is a possibility of return of renal function. Every effort should be made to combat the fall in the alkaline reserve of the blood which is "a rather constant and dangerous result of uremia."

## COMMENT

Probably this method removes a poison, now unknown but later to be known, and thus gives the blood its chance to return to normal alkaline reserve and the kidneys their opportunity to resume more nearly normal excretion. The reserve function of the kidneys is, of course, of primary importance as providing the starting and the finishing lines.

—V.C.P.

### Roentgen Findings of Renal Tuberculosis

H. K. TAYLOR and L. P. WERSHUB (*New York State Journal of Medicine*, 38:166, Feb. 1, 1938) are of the opinion that renal tuberculosis is not a complication secondary to tuberculous infection in the body elsewhere; but that the tubercle bacilli are deposited in the kidney or kidneys in the phase of the primary infection, a subsequent activation of the organisms producing disease. This conclusion is based on the published statistics of the incidence of proved pulmonary or osseous tuberculosis in renal tuberculosis. The primary localization of the tubercle bacilli can occur in any portion of the kidney. The site of this primary localization is of importance, because the possibility of early roentgenographic diagnosis depends upon it. When the primary lesion is at the apex of the pyramid, it may be demonstrated in an early stage because it causes an irregularity or indistinctness in the contour of the calyx. As the lesion advances the calyx becomes more markedly distorted and enlarged. If the tuberculous lesion is located elsewhere in the kidney, it is demonstrable roentgenographically only when it causes a deformity of the renal sinus; and this cannot be considered an early stage of the lesion, even though the roentgenographic picture may be very similar to the early lesion with irregularity in the contour of the calyx. The roentgenographic findings are often not indicative of the size and extent of the lesions in renal tuberculosis. The presence of small isolated calcified deposits in the kidney, the authors believe, indicates the healing or end stage of the primary infection and not the presence of active disease in the urinary tract.

## COMMENT

In tuberculosis of the kidney early x-ray diagnosis seems to depend chiefly on the pyelogram. Early filling defects occur in lesions of the pyramids—by both the retrograde and intravenous methods. If the lesions are in the calices then only the intravenous method is reliable.

—V.C.P.

### Renal Lithiasis Due to Excess Calcium in the Urine

M. ROUX (*Journal de chirurgie*, 50:781, December, 1937) notes that American authors have recently called attention to the frequency of renal lithiasis in association with bone disease of parathyroid origin. The author has recently seen 5 cases of bone disease of various types, only one of which was due to hyperparathyroidism. There were 2 cases of osteo-arthritis, one of complicated fracture, and one of osteomalacia. All of these cases showed definite decalcification of the bones, and an excess of calcium excretion in the urine. The author is of the opinion that it is the process of decalcification resulting in increased excretion of calcium, rather than any specific effect of hyperparathyroidism, that accounts for the occurrence of renal lithiasis in bone disease. Calcium may be precipitated in either acid or alkaline urine; in the alkaline medium with either phosphates or oxalates; in the acid medium, with urates. In the cases reported, the stone in 3 cases was of the calcium phosphate type, in one case, calcium oxalate; in one case the chemical nature of the stone was not determined, but it was probably of the calcium phosphate type. In cases of renal lithiasis associated with decalcification of the bones, the chief object in treatment is to correct the primary condition, or at least to diminish and "stabilize" the process of decalcification. The stones that have been formed should be removed. In order to prevent the further formation of stones, the reaction of the urine should be studied; if it is alkaline, as is usually the case, it should be acidified by diet, by hygienic measures, and by the use of drugs, if necessary. If the urine is acid, as may occur in tuberculous osteo-arthritis, the diet should be regulated to prevent the formation and excretion of excess uric acid.



## COMMENT

During the process of decalcification of the bones, exactly as in the case of too large and too prolonged intake of calcium, the calcium thrown into the blood must be excreted through the kidneys. If the element of infection is present to change the efficiency of the kidneys and the quality of the urine the paths are open to stone formation. —V.C.P.

### Treatment of Recalcitrant Prostatitis by Injection

O. GRANT (*Journal of Urology*, 39:150, February, 1938) notes that injection of substances into the prostate is not a new procedure, but it has been comparatively little used in the United States since introduced here by Townsend and Cano. The purpose of prostatic injection is to introduce an antiseptic into the gland that will act directly on the infection that lies "in the deep hidden cellulites." The author has used mercurochrome in a 1 per cent. solution for this purpose. The injections are given by the perineal route as a rule, in some cases through the urethra; the first injection may be given through the perineum; and a later and smaller quantity of the antiseptic solution may be injected through the urethra. The amount of fluid to be used is determined by noting the amount of resistance to the injection as the prostate becomes filled. This method is to be used only in those cases of prostatitis which fail to improve after many weeks and "even months" of treatment by prostatic massage and all forms of heat. The type of prostate most suitable for injection is the enlarged "boggy" type from which secretion may be freely expressed. The author has had excellent results with this method in properly selected cases. Contraction of the prostate takes place, but this does not interfere with function; the expressed secretion and semen after treatment has been successfully completed are normal in every respect. Many of the patients treated by this method have subsequently become fathers. In no case have any ill effects been observed. To obtain satisfactory results any infection of the seminal vesicles must also be eradicated.

## COMMENT

In special treatments of this type the great question is where is the real focus or foci of infection. The enlarged boggy prostate is almost always associated with disease of the seminal vesicles. Hence to treat the prostate and not the vesicles is a serious mistake. No treatment of this kind should be instituted without a complete diagnosis. —V.C.P.

## + Pediatrics +

### Combined Active Immunization for Diphtheria and Tetanus

J. V. COOKE (*Southern Medical Journal*, 31:158, February, 1938) notes that while the value of active diphtheria immunization is in general well recognized, it is only recently that experimental work and clinical trials have shown the value of immunization against tetanus. Tetanus immunization has been practiced more widely in France than elsewhere, under the leadership of Ramon. Tetanus is more prevalent among children than adults in the United States; the mortality statistics show that children under fifteen constitute slightly less than 30 per cent. of the population, but half the deaths from tetanus occur in this age group. All pediatricians realize the difficulty of deciding whether or not to give tetanus antitoxin prophylactically in many cases of trivial injuries in children, chiefly because of the danger of serum sickness. Hence a simple method of active immunization against tetanus in children seems "highly desirable." Jones and Moss have recently shown that persons given two injections of diphtheria and tetanus alum precipitated toxoids developed antitoxic immunity to both toxins in no less a degree than if the toxoids were given separately. At the St. Louis Children's Hospital and Washington University Children's Clinic, these two toxoids combined are given simultaneously as a routine. Two injections are given at intervals of two months. Reactions have been as mild as with the use of the diphtheria alum toxoid alone. Parents of the children "have welcomed the added protection enthusiastically." So far only two children given these im-

munizing injections have suffered injuries which would ordinarily have required tetanus antitoxin. Both were given a "stimulating" injection of the tetanus toxoid, instead of serum. No symptoms of tetanus developed. The combination of tetanus toxoid with diphtheria toxoid is of interest to pediatricians because it gives "an important added protection without additional effort." Its effectiveness in preventing tetanus can be determined only when this method is carried out on a larger scale, but Ramon states that in France no person vaccinated with tetanus toxoid has developed tetanus.

### *The Availability of the Iron of Grape Juice*

W. FISHBEIN, J. K. CALVIN and J. HEUMANN (*Archives of Pediatrics*, 55:42, January, 1938) report a study of the effect of grape juice in children's diet on the regeneration of hemoglobin. In a children's institution, where the diet was carefully controlled, a series of 60 children were divided into two groups of 30 children each (all of school age). Both groups were given the same basal diet, "of an average to better than average quality and nutritional balance." One group was given 10 ounces of grape juice daily in addition to the basal diet. The duration of the experiment was eighty-six days; hemoglobin estimations were made in all the children at the beginning of the study, after thirty days, and at the close of the observation period. It was found that the group receiving the grape juice gained hemoglobin at approximately twice the rate of the control group. A subgroup of 10 children with the lowest hemoglobin values (indicating secondary anemia) gained hemoglobin at the rate of 40 per cent in excess of a similar group not given grape juice. The grape juice was well tolerated by all the children and was "popular" as a beverage. The authors conclude from these studies that grape juice aids in the regeneration of hemoglobin and is "a good source of nutritionally available iron." It aids in the prevention of secondary anemia, and also appears to be beneficial in the treatment of anemia of this type.

### *Infectious Diarrhea from Salmonella*

BEATRICE MCKINLAY (*American Journal of Diseases of Children*, 54:1252, December, 1937) notes that there have been several recent reports from hospitals of infectious diarrhea in the new-born with "a baffling bacteriologic picture." At the Wesley Hospital, Wichita, Kansas, an outbreak occurred in which 6 new-born infants became ill with severe diarrhea and fever within two days; 2 of the infants died. A number of employees and nurses in the hospital had slight attacks of diarrhea at that time. Cultures from the stools of nurses in contact with the infants showed that one of them was excreting "enormous numbers" of non-lactose-fermenting organisms similar to those found in the stools of the infants with diarrhea. After this nurse was removed from the nursery, no further cases of diarrhea occurred among the infants. A careful study of the organisms from the stools of the infants and this nurse, and from the blood and organs of one of the infants that died showed them to be of the *Salmonella* group, but they did not resemble any of the strains of this group commonly described. The author is of the opinion that the strain of *Salmonella* organism that caused this epidemic is of little or no virulence to the adult, and caused severe symptoms only in the "nonresistant new-born"; the "carrier nurse" was probably the source of the infection.

### *Sudden Death in Infancy*

A. GOLDBLOOM and F. W. WIGLESWORTH (*Canadian Medical Association Journal*, 38:119, February, 1938) report a study of 30 cases of sudden death in infants. This series included 6 cases of obvious infection with death in less than twenty-four hours after onset, and 9 cases of obvious infection with death within one to five days after onset. Four of the infants in which sudden death occurred were asphyxiated by a mechanical cause, 3 from the aspiration of milk and one from a large hemangioma of the trachea. In 19 cases autopsy showed definite inflammatory lesions, indicating, the authors believe, a fulminating bacterial infection. In one case in which autopsy showed a healing pneu-

monia, there was also "a most remarkable localized hypertrophy of the islands of Langerhans." Of the remaining 6 patients, 5 showed indefinite inflammatory lesions which, in conjunction with the clinical history, indicated the possibility that death was also due to a fulminating infection. The pathological findings in these 5 cases included interstitial pneumonia and petechial hemorrhages in the lungs, thymus and pericardium. In the sixth case death was apparently due to laryngeal spasm associated with tetany. In this series of 30 cases, the thymus was abnormally enlarged in only 2 cases. One of these children died from asphyxiation due to aspiration of milk, the other showed evidence of generalized infection. The weight of the thymus in the group in which sudden death occurred without definite clinical signs of infection was the same as in those children that died within twenty-four hours of the onset of symptoms of infection. In none of the cases were the "classical features" of status lymphaticus present. In 6 cases in the series the thymus was definitely atrophic—all children under one year of age. The authors suggest that many cases of sudden death in infancy are caused by fulminating infections "possibly associated with immature immunity on the part of the infant." In such cases postmortem examinations should be very thorough "both from the bacteriological and the pathological viewpoints before yielding to the temptation of making the easy diagnosis of status lymphaticus."

### Rheumatic Nodules

H. I. G. ANDERSON (*Journal of Pediatrics*, 12:91, January, 1938) notes that it is commonly believed that nodules occur less frequently in children with rheumatic fever patients in the United States than in Great Britain, and also that nodules occur less frequently in the Southern than in the Northern states of the United States; but the author has not found this to be true in a study of hospital statistics in Great Britain and the United States. Hospital patients show a higher incidence of nodules than outpatients from the same locality. Of 111 children under fourteen years of age suffering from rheumatic fever or chorea observed at Duke Hospital, Durham,

N. C. (1930-1936), 84 had cardiac involvement and 9 had subcutaneous nodules when examined; 2 others gave a definite history of nodules in previous acute attacks. About 10 per cent. of the entire series, therefore, had subcutaneous nodules; and about 15 per cent. of the patients admitted to the hospital had subcutaneous nodules. These percentages are similar to those found in the Northern part of the United States and in Great Britain. Nine of the 11 children with subcutaneous nodules had joint involvement. Of the 9 children with nodules at the time of examination, only one had no evidence of cardiac involvement; one died of heart failure and one had congestive heart failure when last seen. Of the 2 children with a history of nodules, one showed only a slight enlargement of the heart; and the other died of heart failure. The nodules usually developed rapidly and persisted from a few days to several months. They usually were distributed symmetrically in the region of the joints and along the tendons, especially over the elbows, the malleoli, the spinous processes of the vertebrae and scapulae. They also occurred along the extensor tendons of the hands, fingers and toes, and in several cases over the bones of the skull. In one case two nodules were found over the sternum—an unusual location.

### Hypertrophy of the Heart in Infants

H. E. MACMAHON (*American Journal of Diseases of Children*, 55:93, January, 1938) reviews the various types of cardiac hypertrophy in infants as described in the literature. He finds that there are three groups. In the first group the increase in weight of the heart is due to real hypertrophy of the fibers of the cardiac muscle. In the second group there is a pseudohypertrophy of muscle fibers due to a swelling of these fibers resulting from an excessive deposition of glycogen. In a third group there is an increase of connective tissue—a diffuse myocardial fibrosis. The author reports the histological examination of the heart of a six months old child who died in uremia; the heart weighed 60 gm.—twice the average weight of the normal heart for a child of the same age and

—Concluded on page 216

## Medical Book News

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Edited by Alfred E. Shipley, M.D., Dr. P.H.

### *The Spirochete Instigates a Battle*

WHO GAVE THE WORLD SYPHILIS? The  
Haitian Myth. by Richmond C. Holcomb, M. D.  
New York, Froben Press, [c. 1937]. 189 pages.  
Svo. Cloth.

Naval and land forces are engaged in a war over the spirochete which promises to be decisive. This organism is truly one of the great trouble makers of the world, in more senses than one.

Captain Holcomb fires a formidable broadside in this book into the fort commanded by Pusey, *et al.* Holcomb is one of the leaders of that school which believes that syphilis had long had a foothold in Europe before the western voyage of Christopher Columbus, while Pusey and many colleagues hold to the view that the sailors of Columbus acquired in Haiti the spirochete that set fire luetically to the European world.

Descriptions of the European epidemic suggest typhus to Captain Holcomb's mind much more than they suggest syphilis. His argument on this score is very persuasive.

But the heaviest shell delivered by Captain Holcomb consists in an exhaustive examination of the book written by Ruiz de Isla, a Spanish surgeon, which has been the chief prop of the Columbian school. The license to print this book was issued July 10, 1537, and it was published in Seville, September 27, 1539. It exists in manuscript form in the National Library at Madrid (*Codex* p. 42). The Huntington Library at San Marino, California, has a copy, and photostatic reproductions are in the Surgeon-General's Library and in the Naval Medical School Library, Washington, D. C. The entire volume has been translated by Captain Holcomb. From the detailed intrinsic evidence submitted by Captain Holcomb, it would seem that many of the writers who have expounded

the alleged testimony in the Spanish work "have never seen the book, and have trustfully taken speculation for facts, interpolating passages into his text with a sleight-of-hand finesse to improve the case."

Holcomb points out that this old Spanish author himself records a belief in the antiquity of syphilis, declaring the "mentagra" (called by the Greeks lichens, by the Chinese lee, by the Japanese to-kasa, and by the physicians of ancient India upadamsan) of Pliny (Book 26, *Natural History*) to have been the same disease as his own empeyne and citing the old Spanish curse of *malas bubas*.

The fact is that Ruiz de Isla tells two stories in his attempt to account for syphilis. Thus he is not only not a positive witness to the origin of syphilis in Europe, but he impeaches himself. The proponents of the Haitian theory as to the origin of syphilis in Europe seldom go further into Ruiz de Isla, says Captain Holcomb, than the opening chapter, which contains the Columbian story. Most of them are presumably not aware of the author's concession to antiquity in another chapter.

Captain Holcomb gives a chapter to the humoral physiology and pathology of the medieval surgeons, which is essential to an understanding of Ruiz de Isla. Each of the Spanish surgeon's thirteen chapters is discussed in detail (sixty-five pages of the Holcomb text).

The book has an introduction by C. S. Butler, M.D., F.A.C.S., Rear Admiral, Medical Corps, United States Navy, retired, formerly Director of Public Health, Haitian Republic, who mans a heavy gun himself in behalf of the pre-Columbian school, and writes darkly about a hemlock law (*à la Socratique*) for those who mislead in the teaching of medicine.

*Who Gave the World Syphilis* is a notable achievement of medical scholarship.

ARTHUR C. JACOBSON.

### *Steel's Biochemistry for Students*

BIOLOGICAL AND CLINICAL CHEMISTRY. By Matthew Steel, PH.D. Philadelphia, Lea & Febiger, [c. 1937]. 770 pages, illustrated. 8vo. Cloth, \$8.00.

This textbook for medical students is a successful course of study of Biochemistry, each subject correlated with the clinical applications. Trumper and Cantarow have done this admirably for the practicing physician in their work *Biochemistry in Internal Medicine*. Professor Steel's book for the medical student is much more extensive, and includes the necessary laboratory methods at the time each subject is considered. Another commendable feature as a medical school text is the idea of the student himself being the subject, whenever practical, as laboratory experiments. This is to apply clinical chemical tests as part of the consideration of the subject matter.

The book is taken up in five parts: I. Chemistry of the organic constituents of the cell. II. Physical chemistry and biophysics of cells and tissues. III. The catalyzers of vital phenomena—enzymes, vitamins and hormones. IV. The circulatory system. V. Nutrition, metabolism and clinical chemistry.

The section on nutrition and the matter of the adequate diet gives the usual confusion to the student that almost all of the accepted texts on diet have done

in the past. The same fault is found in consideration of the treatment of diabetes by both diet and insulin.

The references at the end of each chapter are given under two headings—specific and general references. This is of value.

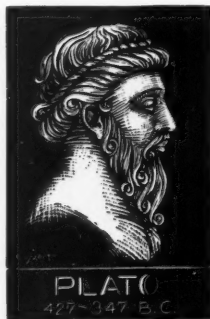
PAUL C. ESCHWEILER.

### *An American Atlas of Hematology*

DISEASES OF THE BLOOD AND ATLAS OF HEMATOLOGY. With Clinical and Hematologic Descriptions of the Blood Diseases Including a Section on Technic and Terminology. By Roy R. Kracke, M.D. and Hortense E. Garver, M.S. Philadelphia, J. B. Lippincott Company, [c. 1937]. 532 pages, illustrated. 4to. Cloth, \$15.00.

The senior author of this text is one whose first-hand knowledge on the subject aptly fits him to write a manual of this kind. The various blood diseases are covered in a clear, concise fashion, with equal stress on the diagnostic and therapeutic sides of the subject. There is an excellent chapter dealing with the various and more modern methods of hematological technique. The book is conveniently divided into sections dealing with hematological terminology, development and morphology of the blood cells, the anemias, leukemias and the haemorrhagic diseases.

One of the main features of this book is the color plates; fields have been drawn from actual preparations under the microscope, and composite plates, in many instances, have been made from actual cases observed. These plates are faithful reproductions of cells stained by Wright's method and form a valuable guide to the identification of the more immature cells especially. The repro-



### *Classical Quotations*

- The heart is the junction of the veins and the fount of the blood which circulates vigorously through all the limbs.

**Plato.** *Timaeus*. Fourth century B.C. English translation by Rev. R. G. Bury; page 181, facing the Greek text. New York. G. P. Putnam's Sons. 1929.



ductions of the plates in the printed volume are quite faithful, for which credit should be given to the publishers.

The field of blood diseases has been thoroughly and concisely covered. An excellent chapter dealing with the current views on the origin of the blood cells deserves special mention. The authors have digested the voluminous and controversial literature on this subject and have simply and briefly expressed the theories of the monophyletists and the polyphyletists. In a field as highly controversial as this, it is refreshing to see the presentation of opposing views and the dogmatism in the expression of the authors' opinions on this matter. The development and morphology of the blood cells have been covered in an exhaustive fashion, and ample references have been supplied in this and other chapters of the text.

In the chapter dealing with the anemias the ideas expressed extend all the way from a historical review of the subject up to the views expressed in recent publications. The references dealing with the treatment of the anemias are to be commended.

Dealing with such a subject as hematology, in which so many synonyms are used to describe a single blood cell or a blood disease, it is worthy to note that the authors invariably supply the synonymous terms. That portion of the book covering the leukemias is also to be commended. The roentgenological treatment of the leukemias, contributed by Dr. James Clark, clearly expresses the present view on this phase of the subject.

There is an especially good chapter dealing with blood grouping and blood transfusion. The chapter on the normal blood picture of laboratory animals should be of especial value to research workers studying hematological problems, as information of this kind is very difficult to find in current medical literature.

This book is among one of the first attempts in preparing a truly American one-volume text on hematology, and, for compactness and clarity, it has reached a high plane of excellence. It compares favorably with the older European hematological atlases, and from the point of view of the color plates, it should be of distinct aid to the student of hematology

in identifying the various and infrequent types of blood cells. It can be highly recommended to the medical student, the practicing physician and to the laboratory worker specializing in hematology.

THEO. J. CURPHEY.

#### *A Revision of Williams' Minor Diseases*

MINOR MALADIES AND THEIR TREATMENT. By Leonard Williams, M.D. Seventh edition. Baltimore, William Wood and Company, [c. 1937]. 439 pages. 12mo. Cloth, \$3.75.

The first edition of this small book was published in 1906. This one has a new chapter on dietetics in addition to a general revision. The principal object of the book is to furnish young practitioners with a working knowledge of the treatment of such conditions as colds and coughs, constipation, minor glandular insufficiencies, neuralgia, etc. A considerable number of prescriptions are given, some of which are old fashioned in containing too many drugs and drugs little used in this country. In leisurely style the author furnishes much practical information.

WILLIAM E. MCCOLLOM.

#### *An Emergency Manual for the Layman*

EVERYDAY FIRST AID. By Walter Frank Cobb, M.D. New York, D. Appleton-Century Company, Inc., [c. 1937]. 269 pages, illustrated. 12mo. Cloth, \$1.50.

This volume written for the layman is complete in every detail. It contains 25 chapters dealing with all the first aid problems that might confront the layman, both at home and while travelling. There is an excellent index and a postscript containing a short discussion of the three major problems in the great drama of first aid. This short chapter winds up with "play safe and see that others do too."

The appendix contains lists of the equipment for first aid at home; first aid in the automobile; etc. Each chapter begins with an actual story about first aid problems at hand. The situation is analyzed, first aid measures are recommended, with reasons for their recommendation. The subsequent history of the actual illustrative case is given, then general comment on the ailment or injury in a manner easily understood by laymen.

This volume is a decided asset to any home.

HERBERT T. WIKLE.

### *Young's Sex Abnormalities*

GENITAL ABNORMALITIES, HERMAPHRODITISM & RELATED ADRENAL DISEASES. By Hugh H. Young, M.D. Baltimore, The Williams & Wilkins Company, [c. 1937]. 649 pages, illustrated. 4to. Cloth, \$10.00.

This is a timely and unique book. Most physicians are informed about sex and its abnormal manifestations considered from the philosophical and psychiatric aspects. Certain deviations from the normal are named and classified. When the matter of cure is considered, little has been ours to offer except education, training, suggestion and restraint.

All disease has an anatomical basis. When physical abnormalities can be diagnosed and corrected, the beginning towards producing normal functioning begins. Abnormal sexual manifestations may be associated with abnormal external sexual organs. Often the palpable external organs appear normal though the personality is not so. The explanation seems to be in disease of related genital and other glandular organs. Surgery is beginning to explore and to show what organs are diseased, and sometimes the application of surgical measures to correct these abnormalities produce positive results.

Here in one book of about five hundred pages is collected our knowledge to date. Positive in its information, suggestive in its discussion of fields to be explored, always fascinating by reason of its style and illustrations, it marks a forward step in the control or cure of these unfortunate whose entire life is a curse to the community and to themselves.

The surgeon and physician will be the more helpful to these patients for having studied this work.

J. STURDIVANT READ.

### *Cardiac Measurement*

ORTHODIASCOPY. An analysis of Over Seventeen Hundred Orthodiascopic Examinations. By Chester M. Kurtz, M.D. New York, The Macmillan Company, [c. 1937]. 247 pages, illustrated. 8vo. Cloth, \$3.50.

This volume offers the physician a concise presentation of the subject of orthodiascopy and fluoroscopy of the human heart. The technique and apparatus are carefully described including an ingenious chest marking device that permits marking the actual cardiac contours

upon the chest wall of the patient—an excellent check on percussion.

In the chapter on the cardiovascular silhouette in the normal the author describes four curves comprising the left border, and calls the third curve the left auricular salient. In the opinion of the reviewer it is unfortunate to revive this concept because it has taken a long time for it to become generally known that the left auricle is really centrally and posteriorly placed, and that only occasionally can the tip of the left auricular appendage be seen on the left border. The practice of measuring the "left auricular salient" and giving it normal values appears to rest on insufficient evidence.

The author makes a strong plea for the use of the frontal area in trying to arrive at the size of the heart. His statistical work seems to show that this is the most accurate of all methods, and yet there is an obvious source of error in this because the upper and lower borders of the frontal area cannot be seen in the fluoroscope, and must be formed by arbitrary lines drawn in by the examiner. The frontal area will depend upon how those lines are drawn.

The chapters on the heart contours in its various diseases are good except for the section on chronic adhesive pericarditis. Here the author fails to present the newer concepts of constrictive pericardial disease, the small quiet heart with diminished contractions. The handling of syphilitic disease is very good. The fact that heart size is not increased in cases with uncomplicated syphilitic aortitis is worthy of emphasis.

In spite of certain criticisms the reviewer believes that the book is a valuable addition to the library of those using the fluoroscope.

EDWIN P. MAYNARD, JR.

### *Dr. Watson: 1938 Model*

THE DOCTOR LOOKS AT MURDER. By M. Edward Marten, M.D. Garden City, Doubleday, Doran & Company, [c. 1937]. 325 pages, illustrated. 8vo. Cloth, \$3.00.

Dr. Watson has changed greatly since his stirring apprenticeship with Sherlock Holmes. He was rather dumb in those early days of initiation. "What an ass I have been," he said in the account of *The Reigate Puzzle*. Things that

should have set his wits to work found him "staring in blank amazement," as in the story of *The Resident Patient*. Even in superficial matters he was often unable to grasp implications after Holmes had carefully explained them to him, as in the latter narrative.

The "Dr. Watson" whose acquaintance we make in *The Doctor Looks at Murder* is a very different person. He is now known as Dr. Marten, and he is Deputy Chief Medical Examiner of the City of New York and Lecturer on Criminological Medicine at the New York Police Academy. He has evolved into an expert who would have been a real team mate of Sherlock instead of a mere chronicler of the great detective's exploits. But the art of the story teller is still used by him in this book to good purpose.

Dr. Marten describes the origin of the medieval coroner (crown) system in England about A.D. 1000, its change under Edward I (A.D. 1300) from the charge of the king's legal and financial matters to clean-cut responsibility in criminal cases, its partial reform by Parliament in 1887, and its complete reform in Boston in 1877 and in New York in 1918, or rather its transformation into the Medical Examiner system. It is a deplorable fact that the highly efficient system operated in conjunction with the District Attorney's office and the courts in Boston and New York has been adopted as yet by only one other jurisdiction, that of Essex County, New Jersey. It is, of course, the system of the civilized future everywhere.

How this well-nigh perfect system operates, to the honor of medicine, law and criminology, is told entertainingly. The relations of the examiner with his staff, with toxicologists, police and the courts are gone into with much interesting detail. The actual detection of crime is fascinatingly set forth under the heads of Firearms and Ballistics; Deaths from Asphyxia; Murder, Suicide or Accident?; Sex Crimes; Reconstruction and Identifications; and Miscellany. Here is exciting source material galore for the yarn spinners and the fans; here is a veritable Philo Vance filling station; read this book if sophistication in amateur crime fancying is really your aim. And at this point let us give the reader a tip—the

truth in these matters is sometimes stranger than fiction.

This book should be prescribed reading for every student and practitioner, for there is very much to learn in it, not readily obtainable anywhere else, that will deepen one's medical understanding of human beings and sharpen one's diagnostic wits. A master in his field gives the medical passwords to all the arcana of crime.

ARTHUR C. JACOBSON.

### *Blazing the Trail in American Medicine*

DOCTORS ON HORSEBACK. *Pioneers of American Medicine.* By James T. Flexner. New York, The Viking Press, [c. 1937]. 370 pages. 8vo. Cloth, \$2.75.

This volume, which is amazingly rich in historical incident and detail, contains a series of biographical sketches of men who were pioneers in the development of American medicine. It deals with men who made great discoveries without adequate medical education, laboratories, or any formal training—men who showed the spark of genius and blazed the trail of medical progress in this country.

There is the life story of Dr. John Morgan, founder of the first medical school in the colonies, who was Surgeon General of the Continental Army under Washington. The petty political attacks of his adversaries resulted in his dismissal from the army. Although vindicated by a court of inquiry and honorably acquitted, he returned to private practice, broken in spirit and in health, and ended his days in obscurity.

Dr. Benjamin Rush, a signer of the Declaration of Independence and founder of the first dispensary in this country, was regarded as the greatest medical authority during the Revolutionary period. He wrote extensively on various medical topics, and recognized only two kinds of therapeutic agents, stimulants and depressants, both of which he used freely. He considered himself infallible, and, unfortunately for the progress of American medicine, he succeeded in influencing his contemporaries. Dogmatic and autocratic in his behavior, he never produced anything of scientific value.

Dr. Ephraim McDowell, truly courageous and self-reliant, performed the first ovariectomy somewhere in the backwoods of Kentucky while a mob waited

outside threatening to lynch him in the event of a fatal result, and thereby became the father of operative gynecology.

Dr. Daniel Drake, organizer of medical schools in the west, carved the progress of medicine westward. He wrote a monumental work on *The Principal Diseases of the Interior Valley of North America*.

Dr. William Beaumont, a surgeon in the U. S. Army, was the pioneer in experimental physiology in this country. He reported his findings on the process of digestion in the stomach as actually observed through an accidental fistula formed as the result of a gunshot wound suffered by a half breed, Alexis St. Martin. By saving a man's life, he won for himself a living laboratory.

The last chapter is devoted to the controversy about the discovery of ether anesthesia. While it is still a debatable question, this author concludes that there is enough credit for two men to share without any bitterness.

The writer analyzes the true characters of the men he discusses, and, while he is ready to give them full credit for their accomplishments, he does not hesitate to show their bitter antagonism, jealousies and quarrels. He also emphasizes the difficult conditions under which they worked,—their battle against ignorance and prejudice, their daring experiments.

This absorbing book deserves a place in everybody's library.

WILLIAM RACHLIN.

### *The Problem of Sleep*

**SLEEP CHARACTERISTICS.** How They Vary and React to Changing Conditions in the Group and the Individual. By N. Kleitman, F. J. Mullin, N. R. Cooperman and S. Titelbaum. Chicago, The University of Chicago Press. [c. 1937]. 86 pages, 8vo. Cloth, \$1.00.

This book is a résumé of a study made of the problem of sleep. In it attempts have been made to find out the differences and similarities between sleep characteristics of various individuals and some of the external and internal conditions which influence the characteristics of sleep.

Thirty-six subjects were used, the majority being between nineteen and thirty years of age. The mean length of time for all the subjects studied was 179 nights. There is a detailed description

of how the data was gathered on each subject and the method of statistical treatment. Records were made of seasonal differences in sleep characteristics, on the ease in going to sleep and on motility during sleep. Further data was obtained on dreaming, on the duration of sleep and the feeling of restfulness on arising. There is a summary of the work done and certain conclusions are drawn from the data presented.

This study has been carefully made. The facts are well presented and the conclusions from the data reasonably drawn. The book should be of interest to the profession.

STANLEY S. LAMM.

### *A New Edition of Key & Conwell on Fractures*

**THE MANAGEMENT OF FRACTURES, DISLOCATIONS AND SPRAINS.** By John A. Key, M.D. and H. Earle Conwell, M.D. Second edition. St. Louis, The C. V. Mosby Company, [c. 1937]. 1246 pages, illustrated. 4to. Cloth, \$12.50.

This book, with 1230 illustrations, is a well worth-while text on the modern treatment of fractures, dislocations and sprains. While the handling of individual cases of fractures may be the subject of differences of opinion, the general principles, as described in detail in this book, should be both illuminating and instructive to all those treating this type of injury.

In the preface to the second edition, the authors refer to changes in the text in the treatment of fractures of the spine and hip. We recommend highly the revised chapter on Fractures of the Spine and Hip. Agreeing with the authors that the last word has yet to be said in the care of hip fractures, we feel that this chapter is a fair and comprehensive discussion of modern methods of treatment, involving as it does, the mooted operative and non-operative approach.

Because of their present importance, chapters have been included on the Workmen's Compensation Law Affecting Fracture Cases and on the Medico-Legal Aspect of Fractures. We are impressed by the fact that this book is not just another textbook on fractures for the use of students—it will be of definite aid to those in active practice who wish to be

well informed on the care of fractures and will furnish excellent material for discussion by the expert.

JOSEPH RAPHAEL.

### **Medico-Legal Aspects of a Famous Murder Case**

MEDICO-LEGAL ASPECTS OF THE RUXTON CASE. By John Glaister, M.D. and James C. Brash, M.D. Baltimore, William Wood & Company, [c. 1937]. 284 pages, illustrated. 4to. Cloth, \$6.00.

The authors of this work descriptive of an intricate and unique dual murder case, concern themselves mainly with the *Corpus Delicti*; an element in "Evidence," which is vital to the proof of guilt.

Officials of the Scottish and English police forces as well as members of the medical profession, displayed great skill in the process of reconstructing the respective bodies of the victims.

In determining "Identity," practically every specialty of Law and Medicine is represented; especially interesting are the numerous illustrations by means of "Studio" photographs, sketches and X-rays.

Such wealth of information, in but a single volume, deserves honorable mention in the annals of medico-legal jurisprudence.

To physicians and attorneys who are interested in criminal evidence, this work will serve as a valuable reference.

S. INGRAM HYRKIN.

### **Loewenberg's Book on the Endocrines**

CLINICAL ENDOCRINOLOGY. By Samuel A. Loewenberg, M.D. Philadelphia, F. A. Davis Company, [c. 1937]. 825 pages, illustrated. 8vo. Cloth, \$8.00.

Among numerous treatises on clinical endocrinology, Dr. Loewenberg's book stands out as one written by an experienced clinician who, in the study and practice of internal medicine, has devoted much attention to the manifestations of endocrine disorders. His approach is not that of the laboratory worker or research man engrossed with one phase of the physiology of the disturbances of a particular endocrine gland.

A thorough knowledge of the literature is shown in the discussion of both symptoms and treatment. The only adverse criticism this book calls forth is its somewhat conventional attitude in

the classification of endocrinopathies and in the explanation of their pathogenesis. The author does not take issue with any controversial questions, and follows the trend of thought accepted by earlier authorities remaining impartial in the controversies engendered by recent advances in endocrinology.

The book can be recommended as an introduction to modern endocrinology for those who have not obtained first hand information by reading the original contributions.

M. A. GOLDZIEHER.

### **A Clinical Study of Diseases of the Appendix**

APPENDICITIS. A Clinical Study. By W. H. Bowen, M.S. New York, Macmillan Company, [c. 1937]. (Cambridge University Press). 201 pages. 12mo. Cloth, \$2.50.

This small book is devoted strictly to the clinical aspect of appendicitis. A review of the history and physical findings are ably done by one who undoubtedly has had considerable experience with this disease. Many case reports are recorded.

The chapter on Etiology describes a classification not very often used in this country, *Obstructive appendicitis*.

The book is well worth reading.

JOHN M. SCANNELL.

### **Practical Health Statistics**

TWENTY-FIVE YEARS OF HEALTH PROGRESS. A Study of the mortality experience among the industrial policyholders of the Metropolitan Life Insurance Company 1911 to 1935. By Louis I. Dublin, Ph.D. and Alfred J. Lotka, D.Sc. New York, Metropolitan Life Insurance Company, [c. 1937]. 611 pages, illustrated. 8vo. Cloth.

This is a study of the mortality experience among the industrial policyholders of the Metropolitan Life Insurance Company from 1911-1935.

Quite often, statistics make very dry reading, but Dr. Dublin has the ability to present figures in a decidedly attractive way. The statistical tables which are relatively simple and easily interpreted are supplemented by clearly written explanatory reading matter.

Every physician who has practiced medicine for twenty-five years or more knows of the shift in importance of diseases during that time, due largely to reductions in infant mortality, acute infections and tuberculosis. Thus life has



been conserved to reach the older age groups with resultant increase of deaths from diseases incident to the adult age periods.

Ordinarily, physicians desiring such statistical data must refer to many volumes, but, in the book under review, will be found most of this information presented in concise fashion. Considerable space is given to the consideration of pneumonia, cancer, diabetes and the cardiovascular-renal diseases.

A. E. SHIPLEY.

#### *A New Method of Measuring Diet*

MODERN DIETARY TREATMENT. By Margery Abrahams, M.A. and Elsie M. Widdowson, B.Sc. Baltimore, William Wood and Company, [c. 1937]. 328 pages. 12mo. Cloth, \$3.25.

The book consists of approximately 300 pages, half of which is spent in simple description of food elements as well as the application of the well accepted diets in various ailments. The descriptions are very elementary and to the point. Sample diets as well as charts, tables and menus are of the ordinary run found in practically every other book, the exception being the sponsorship by the authors of the "Line Ration" diet scheme. This scheme proposes that the food be divided into black and red portions. Each portion is equivalent to ten grams of carbohydrate while the red portion consists of seven and a half grams of proteins and nine grams of fat.

The authors in giving an example of a diabetic "Line Ration" diet give the following figures: Carbohydrate 150 gms. equals 15 black portions. Protein 75 gms. and fat 90 gms. equaling ten red portions. According to this in addition to previous tables and calculations, one would have to carry around special red and black "Line Ration" tables.

It is the opinion of the reviewer that the tendency of independent authors to create new measures for dietetic computation will lead to confusion rather than simplify the already existing mathematical fears of the physician.

M. ANT.

#### *A Psychologic Study*

IN THE REALM OF MIND. Nine Chapters on the Applications and Implications of Psychology. By Charles S. Myers, C.B.E. New York, The Macmillan Company, [c. 1937]. (Cambridge University Press). 251 pages. 12mo. Cloth, \$2.50.

This collection of lectures is intended

to show the applications and implications of psychology. The variety of subjects indicate the wide interest of psychology in the affairs of mankind—from the "Choice of a Career" to the "Human Factor in Accidents." The nine chapters of the book are pithy, terse, and make interesting reading. Several have a popular appeal; however, others are of interest only to those who have some fundamental conception of psychology.

JOSEPH L. ABRAMSON.

#### *A New Edition of Wheeler's Handbook*

WHEELER AND JACK'S HANDBOOK OF MEDICINE. Revised by John Henderson, M.D. Tenth edition. Baltimore, William Wood and Company, [c. 1937]. 703 pages, illustrated. 12mo. Cloth, \$4.00.

This carefully written compendium, formerly known simply as *Wheeler's Handbook*, has now reached its tenth edition, and is as complete and trustworthy as ever. Henderson of Glasgow has revised this edition, and has included all recent advances which belong in a book of this type. The sections on anemia and kidney diseases are worthy of special praise, but that on respiratory diseases is sketchy. As is the case with all compends, Wheeler and Jack cannot replace a satisfactory textbook, but it has its place as an inexpensive, accurate handbook for rapid review or brief reference. For those who need such a book, it is highly recommended.

MILTON PLOTZ.

#### *Third and Final Volume of Maingot's Surgery*

POST-GRADUATE SURGERY. Edited by Rodney Maingot, F.R.C.S. Volume III. New York, D. Appleton-Century Company, Inc., [c. 1937]. Pages 3575 to 5584, illustrated. 4to. Cloth, \$45.00 set of three volumes.

The third volume of Post-Graduate Surgery appears attractively bound with clear print on excellent paper. It contains 2000 pages, is excellently indexed, and has 1015 well selected illustrations. Thirty-two specialists, all of whom occupy positions of high standing in their fields, have contributed to it.

This volume deals with the following subjects: Orthopedics, Cardiovascular System, Plastic Surgery, Obstetrical Surgery, Lymphatic System, Hernia, Deep X-ray Therapy, Venereal Disease, Eye, Ear, Nose, Pharynx and Larynx, Tonsils and Adenoids. Also Endoscopic Methods in Surgery, Mouth, Thymus

Gland, Esophagus and Diaphragm, Jaws, Physical Agents in Surgery, Medical Aspects of Surgery, Neurological and Psychiatric Problems in Surgery.

It gives an intelligent and well presented cross-section of the best British surgical minds in the treatment of surgical disease. To review the work in detail would mean making a résumé of the entire volume which would add nothing to the value of this review.

Just as the previous volumes were highly recommended so is this one. It presents every conceivable branch of surgery brought up to date.

MERRILL N. FOOTE.

### *Maternal Care Briefly Described*

PRE-NATAL AND POST-NATAL MANAGEMENT. By J. St. George Wilson, M.B., F.R.C.S. Baltimore, William Wood & Company, [c. 1937]. 206 pages, illustrated. 8vo. Cloth, \$4.00.

This little book has a foreword by Comyns Berkeley, who refers to it as the author's adventure into authorship. The author thinks that prenatal care has failed because of its "imbalanced practice" in that now too much attention is paid to presentation and the condition of the birth canal, and too little to thera-

peutic abortion, for which he outlines very wide indications.

We imagine it was quickly written. A few quotations will give one something to think about: "Gonorrhoea is sometimes cured by parturition by expressing the deep seated organisms out of the glands of the cervix and urethra." In inversion of the uterus, "Hemorrhage is treated by removal of the placenta and massage of the inverted fundus." "Lactation is best suppressed by the intramuscular injection of gr. i camphor . . . three times daily for the first four or five days." Of roentgenological examination of the pelvis, he says: "A great deal of attention has been paid by radiologists to this question under the erroneous impression that they will be of great use to the obstetrician . . . of no more value than measurements made by the use of a pelvimeter." Another observation, often true no doubt, yet quaintly put: "These cases are most trying in private practice, where the nurse has been engaged for a certain date, and is living with the patient with nothing to do. Both nurse and patient get on each other's nerves, and by the time the child is born may be deadly enemies."

CHARLES A. GORDON.



## BOOKS RECEIVED

*Books received for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*

MILESTONES IN MEDICINE. Laity Lectures of the New York Academy of Medicine. Introduction by James A. Miller, M.D. New York, D. Appleton-Century Company, [c. 1938]. 276 pages, illustrated. 12mo. Cloth, \$2.00.

THEORETICAL PRINCIPLES OF ROENTGEN THERAPY. Edited by Ernst A. Pohle, M.D. Philadelphia, Lea & Febiger, [c. 1938]. 271 pages, illustrated. 8vo. Cloth, \$4.50.

THE 1937 YEAR BOOK OF PEDIATRICS. Edited by Isaac A. Abt, M.D. Chicago, The Year Book Publishers, [c. 1938]. 527 pages, illustrated. 12mo. Cloth, \$2.50.

TREATMENT OF SOME CHRONIC AND INCURABLE DISEASES. By A. T. Todd, M.B. Baltimore, William Wood & Company, [c. 1937]. 203 pages. 8vo. Cloth, \$3.00.

POISONING THE PUBLIC. Daily Contacts with Toxic Materials as Civilization Marches On. By Russell C. Erb. Philadelphia, Dorrance & Company, [c. 1937]. 219 pages. 12mo. Cloth, \$2.00.

OPERATIVE GYNECOLOGY. By Harry S. Crossen, M.D. and Robert J. Crossen, M.D. Fifth edition entirely revised and reset. St. Louis, The C. V. Mosby Company, [c. 1938]. 1076 pages, illustrated. 4to. Cloth, \$12.50.

**THE STORY OF VITAMIN B.** Rahway, N. J., Merck & Co. Inc., [c. 1937]. 55 pages, illustrated. 4to. Paper.

**THE COMPLETE PEDIATRICIAN.** Practical, Diagnostic, Therapeutic and Preventive Pediatrics. Second, Completely Rewritten Edition for the use of Medical Students, Internes, General Practitioners, and Pediatricians. By Wilburt C. Davison, M.D. Durham, Duke University Press, [c. 1938]. 243 pages. 8vo. Cloth, \$3.75.

**TOXICOLOGY.** By William D. McNally, M.D. Chicago, Industrial Medicine, [c. 1937]. 1022 pages, illustrated. 8vo. Cloth, \$10.00.

**THE 1937 YEAR BOOK OF DERMATOLOGY AND SYPHILOLOGY.** Edited by Fred Wise, M.D. and Marion B. Sulzberger, M.D. Chicago, The Year Book Publishers, [c. 1938]. 736 pages, illustrated. 12mo. Cloth, \$3.00.

**A HISTORY OF WOMEN IN MEDICINE.** From the Earliest Times to the Beginning of

the Nineteenth Century. By Kate Campbell Hurd-Mead, M.D. Haddam, Connecticut, The Haddam Press, [c. 1938]. 569 pages, illustrated. 8vo. Cloth, \$6.00.

**LEAVES FROM A SURGEON'S CASE-BOOK.** By James Harpole. New York, Frederick A. Stokes Company, [c. 1938]. 300 pages. 8vo. Cloth, \$2.75.

**SHORT YEARS. THE LIFE AND LETTERS OF JOHN BRUCE MacCALLUM, M.D. 1876-1906.** By Archibald Malloch. Chicago, Normandie House, [c. 1938]. 343 pages. 8vo. Cloth, \$3.50.

**THE FIGHT FOR LIFE.** By Paul De Kruij. New York, Harcourt, Brace and Co., [c. 1938]. 342 pages. 8vo. Cloth, \$3.00.

**CHIROPODY THEORY AND PRACTICE.** By Franklin Charlesworth, F.B.A.Ch. Second edition. London, The Actinic Press, Ltd., [c. 1938]. 205 pages, illustrated. 8vo. Cloth, 15/.

You may obtain any of the books reviewed in this department by sending your remittance of the published price to Book Department of the **MEDICAL TIMES**, 95 Nassau Street, New York, N. Y.



## CONTEMPORARY PROGRESS

### *Pediatrics*

—Concluded from page 206

size. In this case there was in addition to the increase in size of the muscle fibers a proliferation of the fibers, with nuclei in mitosis and formation of myofibrils. These findings suggest that "it is possible that during the same period myocardial regeneration following severe injury may likewise occur."



## FOREIGN BODIES

*Benj. Pollack*

—Concluded from page 177

### *Summary*

1. Various anomalies of the sexual state have been described.

2. Cases with foreign bodies in the bladder, stomach and other organs have been described.

3. Sexual abnormalities are exceedingly common in psychotics. A great many of the symptoms may be interpreted as frank or disguised methods of expression for liberation from the thralldom of other organs which have become highly endowed with partial or total sexuality.

4. Sexual abnormalities are present also in sane individuals who apparently never develop a psychosis. However, there is usually a less direct expression of their desires and less loss of the normal inhibitions which are present in the other class. This prevents their public expression or recognition.

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